PETROVA, A. F.

"Q Fever in Gur'yevskaya Oblast," by A. F. Petrova, chief therapeutist of the Gur'yevskaya Oblast Health Department, Zdravookhraneniye Kazakhstana, Vol 16, No 11, 1956, pp 27-30

This article reports cases of an acute febrile disease of unknown etiology which occurred in Gur'yevskaya Oblast, Kazakh SSR, from April to November 1954 and which was serologically diagnosed as Q fever in 1955. Blood from patients who had suffered from the disease was examined in the laboratory of the Clinic of Infectious Diseases (director of the Chair of Kazakh Medical Sciences, Prof Ye. N. Bartoshevich) in Alma-Ata. The article gives results of serological investigations. It notes that serum of two patients reacted positively with antigens of both Q fever and typhus. The article describes clinical phenomena observed, and describes in detail one history of a very severe case. This case was treated symptomatically and it is noted that antibiotics, particularly levomycetin, produce good results.

The author concludes that the epidemiology of Q fever in Gur'yev has not been studied and that a possible epidemic focus of the disease may exist in this oblast.

1. PETROVA, A. F.

2. USSR (600)

4. Poultry Breeding.

7. Effect of the hatching dates of chicks on the productivity of breeding hens. Ptitsevodstvo no. 5, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

1. PETROVA, A. F.

2. USSR 600

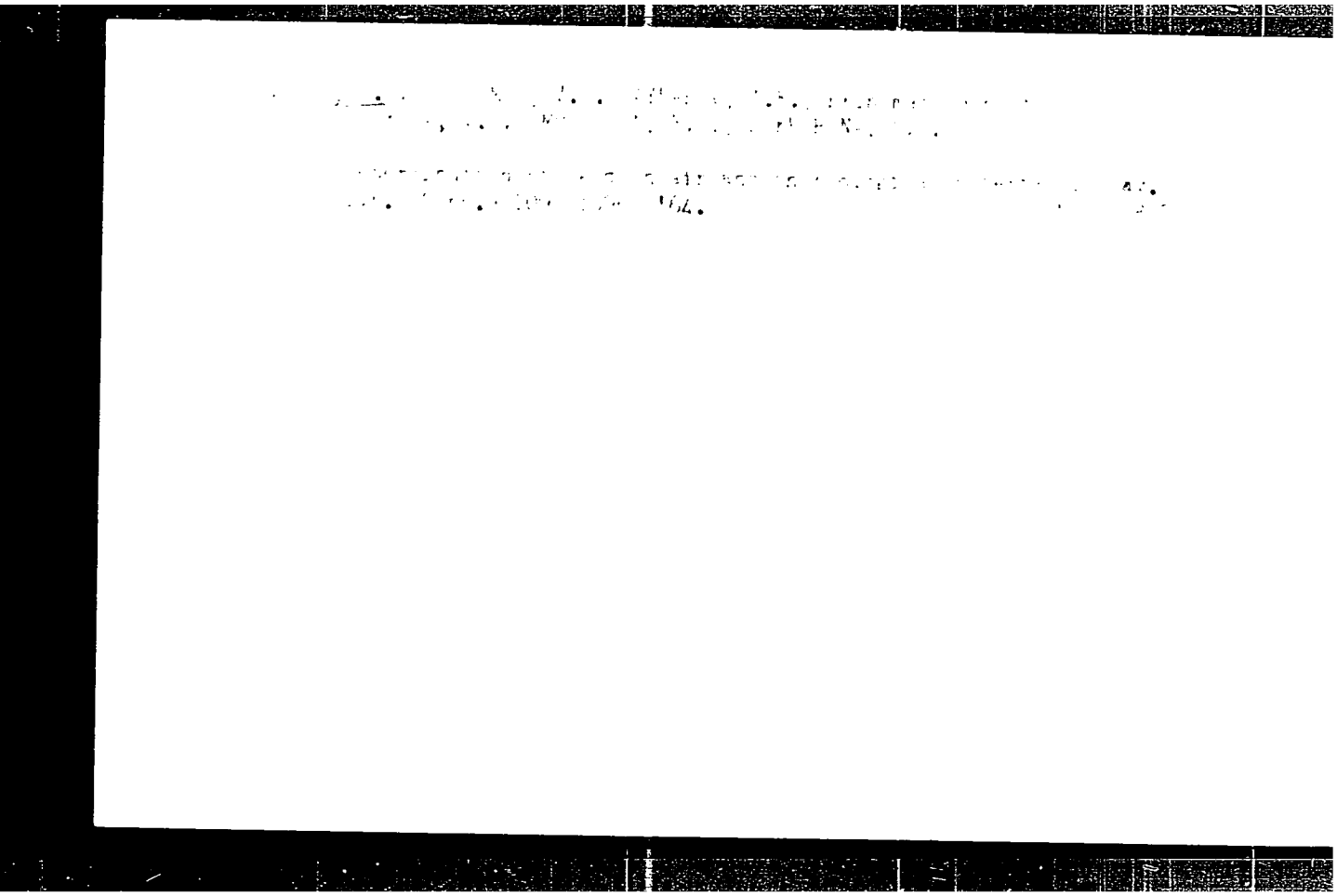
4. Poultry Breeding

7. Early hatching of chickens as a method of improving their productivity and breeding qualities, Trudy NIIP, 22, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

30998. PETROVA, A. FE.

O diagnoticheski kh oshib kakh pri rishchevykh toksikoinfekt_iyakh. V s : Voprosy o.troy vnutrenney kliniki. M., 1949, s. 189-214



PETROVA, A.G.

Some clinical and pathophysiological characteristics of the simple form of schizophrenia. Zhur. nevr. i psikh. 64 no.1: 80-84 '64. (MIRA 17:5)

1. Kafedra psikhiatrii (zaveduyushchiy -- prof. N.P. Tatarenko) Khar'kovskogo meditsinskogo instituta.

S/048/62/026/007/015/030
B104/B138

AUTHORS: Petrova, A. G., and Aydarov, T. K.

TITLE: Influence of the form of impurity combination on spectral line intensity for high-purity sulfur, selenium, and tellurium

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 7, 1962, 899-902

TEXT: The authors aimed to improve determination of impurities in S, Se, and Te. Standard samples were prepared, containing 10^{-5} - 10^{-2}% Ag, Cu, Al, Ni, Pb, Bi, and Sb as oxides, sulfides, selenides, and tellurides. They were investigated in a-c and d-c arcs with an ИСП-28 (ISP-28) spectrograph. Amounts of 40 to 100 mg were introduced into carbon electrodes and analyzed using lines Ag 3280.68, Cu 3247.54, Al 3092.71, Ni 3050.82, Pb 2833.07, Bi 3067.72, and Sb 2528.53 Å. Calibration curves for the impurities show that the form of combination does affect accuracy. Sulfides are recommended in S, sulfides and selenides in Se, and tellurides in Te. Table 1 shows the effect of addition of salts to

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3. The line intensity of impurities in Te is only increased by mixing the sample with coal dust in the ratio 5:1. The increased intensity of the impurity lines is apparently due to variations in the temperature of the arc and in the concentration of impurities in the discharge cloud. Near the cathode, impurities in S show the greatest, and those in Te the least, increase in line intensity. Lead and bismuth intensities increase quite a lot, but those of silver, nickel, copper, and tin very little. Results are very similar for a-c and d-c arcs. Near the cathode 2.5-5% NaCl addition considerably increases the line intensities of impurities in S and Se. There are 3 figures and 2 tables.

Table 1. Effect of the addition of various salts on the line intensities of impurities in the sulfur spectrum. Legend: Salts from top to bottom, NH_4Cl, NaCl, KCl, CsCl without addition; (1) blackening of analytical lines as referred to the background.

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PETROVA, A.G.; AYDAROV, T.K.

Effect of the compound form of admixtures in high-purity sulfur, selenium and tellurium on the spectral line intensity. Izv. AN SSSR. Ser. fiz. 26 no.7:899-902 Jl '62. (MIRA 15:8)
(Sulfur--Spectra) (Selenium--Spectra) (Tellurium--Spectra)

GRISHINA, L.I.; MOROZOV, V.A.; PETROVA, A.G.; NILASHEVICH, M.K.

Tick-borne relapsing fever in Krasnodar region. Med. paraz. i paraz. bol. 27 no.4:402-405 Jl-Ag '58. (MIRA 12:2)

1. Iz Krasnodarskoy krayevoy sanitarno-epidemiologicheskoy stantsii i Labinskoy rayonnoy bol'nitsy.
(RELAPSING FEVER, epidemiology, in Russia (Rus))

BONCH, E.I., nauchnyy sotrudnik; PETROVA, A.I., nauchnyy sotrudnik

Aerosols in controlling rice diseases. Zashch. rast. ot vred. i bol. 8 no.8:26-27 Ag '63. (MIRA 16:10)

1. Vsesoyuznyy institut zashchity rasteniy.

AUTHORS: Il'in, D. I., Petrova, A. I., Chepkasova, N. Yu. SOV/89-5-1-12/26

TITLE: On the Problem of the Migration of Radioactive Bodies From an Open Water Container (K voprosu o migratsii radioaktivnykh veshchestv iz otkrytogo vodoyema)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 1, pp. 75-77 (USSR)

ABSTRACT: For the determination of the economic advantages offered by the possibility of removing radioactive refuse at low cost an artificial pond of 3 km length and a total water surface of 6 km^2 was created. The dams erected were impermeable to water towards the exterior. Radioactive refuse of the following radiochemical composition was emptied into this water on October 15, 1954:

$Sr^{89}+Sr^{90}+Y^{90}$	64%
$Ru^{103}+Ru^{106}$	16%
$Zr^{95}+Nb^{95}$	2%
Cs^{137}	10%
Mixture of rare earths	8%

In the course of the whole investigation, which lasted until the end of 1957, radioactive refuse was emptied five times into this

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On the Problem of the Migration of Radioactive Bodies From an Open Water Container

SOV/[illegible]-1-1-1[illegible]

pond, the total β-activity of which amounted to 60-100 mC/l. Control of the motion performed by the radioactive bodies when moving from the container of water into the ground water was carried out by measuring the β-radioactivity of the water in the 12 artificial bore holes. Results obtained showed that strontium, cesium, and the rare earths are well absorbed by the ground on which the container is located and that therefore this method can be employed without difficulty. Therefore the place on which the container is placed must be selected in such a manner that the migrating Ru^{106} reaches sources of drinking water only after the elapse of the tenfold half life of Ru^{106}. There are 2 figures, 2 tables, and 5 references.

SUBMITTED: January 6, 1956

1. Radioactive waste--Disposal

Card 2/2

AUTHORS: Il'in, D. I., Moskalev, Yu. I., Petrova, A. I.

SOV/89-5-2-11/36

TITLE: On the Accumulation of Radioactive Elements in Some Groups of Water Organisms (O nakoplenii radioaktivnykh elementov nekotorymi gruppami vodnykh organizmov)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 2, pp. 171-174 (USSR)

ABSTRACT: β-activities were filled into a natural container of water (e.g. a lake) of 1,8 m depth, so that the water always had an average activity of from 2 to 4 . 10^{-8} C/l. The average radio-chemical composition of the water was:

Na^{24}	6%	$Ru^{103} + Ru^{106}$	5%
Cs^{137}	16%	$Zr^{95} + Nb^{95}$	8%
$Sr^{89} + Sr^{90}$	48%	Sum of fission products of rare earths	12%
P^{32}	5%		

A number of fishes, plankton, etc. lived in this water. After having lived in radioactive water for one year the organs of the following 5 different kinds of fish were investigated: 36 roaches, 15 perches, 4 pikes, and several types of carp etc.

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On the Accumulation of Radioactive Elements in Some Groups of Water Organisms

SOV/89-5-2-11/36

Furthermore, the activities in the plankton and benthos were investigated. It was found that the plankton, benthos, and the fishes selectively concentrate P^{32}, Sr^{89}, Sr^{90}, Cs^{137} and Na^{24} from the water. The concentration of P^{32} in fishes, in the plankton and in the benthos exceeds the original concentration in water by 3 - 4 orders of magnitude. In Sr^{89}, Sr^{90} and Cs^{137} an increase of up to 2 - 3 orders of magnitude was measured.
From 44 to 59% of the main bulk of β-activities in the organs of fish were found in the muscular tissues, and 16 to 24% in the skeleton. - The concentrations of β-activities in the skeleton, in the gills, fins, and scales is from 3 to 5 times as high as in the soft parts of the body. There are 4 tables and 6 references, 6 of which are Soviet.

SUBMITTED: May 10, 1958

Card 2/2

KULIKOV, A.I.; KURLINA, I.P.; POLYAKOV, I.M.; SHIPINOV, N.A.; GARNOVSKAYA, G.N. [deceased]; FEOFILOV, Ye.Ye.; KOROLEVSKAYA, M.F.; PETROVA, A.I.

Effect of the composition of shale phenols on the process of nitration and pesticidal properties of nitro products. Khim. i tekh. gor. slan. i prod. ikh perer. no.8:167-174 '60. (MIRA 15:2)

(Phenols)
(Pesticides)
(Nitration)

NESHCHADIM, A.G., inzh.; KURDYUMOV, V.N., inzh.; Prinimali uchastiye: YEDEMSKIY, P.M.; FADEYEVA, K.M.; SOKOLOV, A.I.; PETROVA, A.I.; MIKHAYLOVA, N.M.; SERGEYEVA, Z.P.

Influence of temperature on the extraction of prepressed sunflower cakes in the DS-70 extractor. Masl.-zhir. prom. 27 no.6:35-38 Je '61. (MIRA 14:6)

1. Voronezhskiy tekhnologicheskiy institut, Leningradskoye otdeleniye (for Neshchadim). 2. Leningradskiy maslozhirovoy kombinat (for Kurdyumov, Yedemskiy, Fadeyeva, Sokolov, Petrova, Mikhaylova, Sergeyeva). (Sunflower oil)

IL'IN, D.I.; MOSKALEV, Yu.I.; PETROVA, A.I.

Accumulation of radioisotopes in certain groups of water organisms.
Atom. energ. 5 no.2:171-174 Ag '58. (MIRA 11:8)
(Radioisotopes) (Fishes)

SERGEYEV, I.S., kandidat meditsinskikh nauk; PETROVA, A.I., klinicheskiy ordinator

Results of combined antibacterial therapy of pulmonary tuberculosis. Probl.tub. 34 no.6 supplement:9-10 N-D '56. (MLRA 10:2)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir. - kandidat meditsinskikh nauk V.F.Chernyshev, zam. dir. po nauchnoy chasti - prof. V.L.Binis)
(TUBERCULOSIS, PULMONARY, therapy, drug ther., combined (Rus))

PETROVA, A.I.

Methods of maintaining the vitality of perennial rye. Zemledelie 4 no.8:116-117 Ag '56. (MLRA 10:1)
(Rye)

PETROVA, A.

The nature of dynamic double refraction in rubber solutions and the shape of rubber molecules V. N. Tsvetkov and A. Petrova. *J. Tech. Phys. (U.S.S.R.)* 14, 289-315(1944); cf. C.A. 37, 3642[9]. The flow birefringence Δn of low-mol. polymers, e.g., polyisoprene with a mol. wt. *M* between 25,000 and 15,000 in gasoline or of Buna-S with *M* between 40,000 and 11,000 in CCl_4, is proportional to the rate of shear *g*. The Δn of high polymers, e.g., polyisobutylenes, e.g., Oppanol, *M* 165,000, and Vistanex, *M* 75,000, in gasoline, increases with *g* more than linearly. For these compds. the theoretical const. $\Delta n/gC\eta$ (*C* is the concn. of the polymer in basic g.-mol. per l., and η the macroscopic viscosity of the soln.) is the smaller the greater is *C*; this is due probably to the microscopical viscosity being smaller than the macroscopical one. It is found that the magnitude $Z = \Delta n/gC(\eta - \eta_0)$ is independent of *C* (η_0 is the viscosity of the solvent). *Z* of Vistanex in tetrahydronaphthalene is independent of temp. between 12 and 48°, and decreases when the temp. is further increased. Solns. of com. divinyl polymers often show an abnormal variation of *Z* with *C*, which seems to be caused by impurities (talc from mastication, etc.). When *g* increases up to 15,000 sec.$^{-1}$, the extinction angle slowly decreases for low-mol. polymers, rapidly decreases for high polymers, and varies irregularly for com. divinyl polymers. The value of *Z* depends on the refractive index *n* of the solvent; e.g., for Vistanex, *n* = 1.5, *Z* passes through a min. (3 10[-9]) at *n* = 1.40. The excess of *Z* over Z_{min} must be due to an anisotropy of the polymer mol. This anisotropy must be produced by a deformation of the mol. since Δn increases with *g* even when the angle of extinction is near 0, and the elec. birefringence is many times smaller than that for a straight polymer mol. From the *Z* values the ratio of the long and the short axis of the mol. is calcd.; for 1 group of polymers it is the greater the higher the degree of polymerization, for divinyl polymers it is the greater (100-130) the fewer the free vinyl groups (30-40%) in the polymer. J. J. Bikerman

Affiliat Leningrad U - Yelabuga

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

2

Dynamic double refraction in solutions of polymers of divinyl and methyl methacrylate. V. N. Tsvetkov and A. Petrova. *Zhur. Fiz. Khim.* 23, 368-78(1949); cf. *C.A.* 40, 2050[e]; 42, 1081e.—(1) Butadiene (I) polymerized with Na was fractionated by pptg. dichloroethane soln. with EtOH and the fractions were dissolved in gasoline. The relative viscosity η_r of these solns. was independent of the velocity gradient g for low-mol. fractions and decreased when g increased for high mol. wt. fractions; at $g >$ 15000 sec.$^{-1}$ η_r was independent of g for all fractions. The dynamo-optical const. $X = \Delta n/gC\eta_0^{1/2}$ was characteristic for every fraction and proportional to its (viscometric) mol. wt. M; Δn is birefringence caused by g (detd. in 0.1-0.3 mm. thick layer between a stationary and a rotating cylinder), C concn., η_0 the viscosity of the solvent. For the extinction angle α the equation found is tan 2α — tan $2\alpha_\infty$ = $6kT/g\eta_0^{1/2}W$; α_∞ is an empirical const. (although it should be zero according to theory), and W is the friction coeff. for rotation. W increases with M less rapidly than M^3; this constitutes a difference between linear polymers, cf. *C.A.* 40, 788[1], and branched polymers such as poly-I. The X in solvents whose n is near 1.47 ($CHCl_3$, dichloroethane, and CCl_4) is less than in gasoline, Et_2O, C_6H_6, PhCl, and tetralin (whose n is smaller or greater), showing that the flow birefringence is due mainly to the shape of the polymer mol. (2) Copolymers of I and styrene have (in tetralin and dichloroethane) a pos. X and a pos. photoelastic effect as long as the amt. of I is less than about 33%; the sign of both is pos. in I-richer polymers. Apparently, photoelastic effect, like shape effect, is a part of the Maxwell effect. (3) Poly(methyl methacrylate) (II), M = 450,000, has a η_r which is small for its M, η_r in $COMe_2$ and $CHCl_3$ is independent of g at $g >$ 8000 and, in this range, little dependent on the solvent. The η_r, X, and α of the solns. are lowered when large g (>35,000) is applied for several min., thus indicating decrease in the particle size. In $COMe_2$

$\Delta n/g$ = const. C up to C = 0.5%, and $X = \Delta n/gC\eta_0$ in all solvents ($COMe_2$, AcOEt, $CHCl_3$, $C_2H_4Cl_2$, C_6H_6, PhCl, and $CHBr_3$). X has a min. in C_6H_6 whose n is near that of II (1.49), showing the preponderance of the birefringence due to shape. The mol. of II seems to be relatively rigid.

J. J. Bikerman

Leningrad State U.

CA PETROVA, A.I.

2

Investigation of fractionated polybutadienes by a dynamo-optical method. V. N. Tsvetkov, A. I. Petrova, and I. Ya. Poddubnyi (Leningrad State Univ., Leningrad). *Zhur. Fiz. Khim.* 24, 996–1003(1950).—Solns. of various fractions of polybutadienes obtained at various temps. of polymerization were studied by dynamo-optical double refraction. The double refraction was linearly related to the rate gradient. Conclusions are drawn concerning the form of the macromol. in various solvents and the effect of the polymerization temp. on the configuration of the mol.

Paul W. Howerton

NUDOL'SKAYA, O.Ye.; SHAKHMEISTER, S.Ya.; PETROVA, A.K.; ABRAMOVA, M.M.

Immediate and remote results of radiotherapy of uterine cancer. Akush. gin., no.5:71-76 Sept.-Oct 1953. (CIML 25:4)

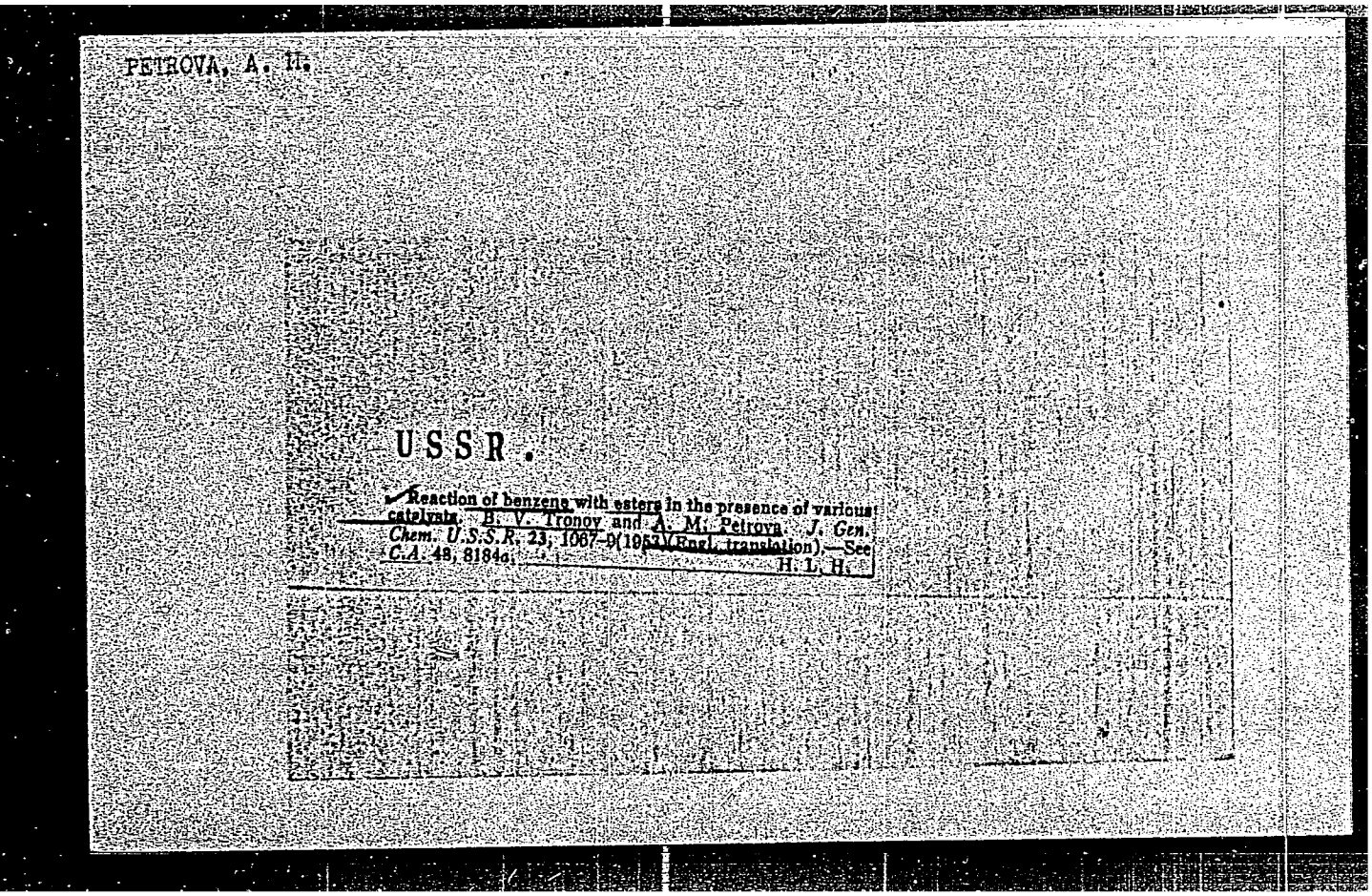
1. Professor for Nudol'skaya. 2. Of the Institute of Obstetrics and Gynecology (Director -- L. G. Stepanov), Ministry of Public Health USSR.

PETROVA, A. M.

Reaction of benzene with esters in the presence of various catalysts. B. V. Trofimov and A. M. Petrova (S. M. Kirov Polytech. Inst., Tomsk). *Zhur. Obshchei Khim.* 23, 1019-22(1953); cf. *C.A.* 25, 3973.—The reaction of 2 moles C_6H_6 with various esters in the presence of catalysts can be summarized as follows (the mixts. were heated 6 hrs. on a water bath; a few vigorous reactions required initial cooling): 0.5 mole $EtONO_2$ and 0.25 mole $AlCl_3$ gave 81% $PhNO_2$, also formed in low yield with 0.25 mole $ZnCl_2$; 0.5 mole $EtONO_2$ and 0.25 mole $SnCl_4$ gave 39.6% $PhNO_2$, while 0.25 mole $SbCl_5$ gave 49.2% $PhNO_2$; 0.220 mole $EtONO_2$ and 0.144 mole $SbCl_5$ gave 83.0% $PhNO_2$; 0.5 mole Et_2SO_4 and 0.25 mole $AlCl_3$ gave 17% EtPh and 10.9% $Et_2C_6H_4$; no reaction took place with Et_2SO_4 and $FeCl_3$, $ZnCl_2$, $SnCl_4$, $SbCl_5$, or $BiCl_3$ catalysts; 0.25 mole Et_3PO_4 and 0.25 mole $AlCl_3$ gave 23% EtPh; 0.5 mole $(BuO)_3B$ and 0.125 mole $AlCl_3$ gave some organo-B compd.; $Si(OMe)_4$ and $SnCl_4$ did not react, but 0.125 mole $Si(OEt)_4$ and 0.125 mole $AlCl_3$ gave 12% EtPh; 0.125 mole EtOAc did not react with $AlCl_3$ or $SbCl_5$; $ZnCl_2$ was unreactive with AcOBu and $AlCl_3$ was unreactive with AcOAm; 0.125 mole $AcOCH_2Ph$ and 0.125 mole $AlCl_3$ gave 70.7% Ph_2CH_2, while 79% was obtained in a repetition of the expt.; with this ester $CuCl_2$, $ZnCl_2$, $ZnBr_2$ were unreactive, however, an equimolar amt. of $SnCl_4$ gave 66.6% Ph_2CH_2 while $SbCl_5$ gave 36%; $BiCl_3$ gave 14%; no reaction took place with $AcOCH_2Ph$ and AlI_3, or with AcOPh and $AlCl_3$ or $SbCl_5$; 1/15 mole triacetin and 0.2 mole $AlCl_3$ gave 28% AcPh, while 29% was obtained with 0.2 mole $SbCl_5$; 0.125 mole $ClCH_2CO_2Et$ and 0.125 mole $AlCl_3$ gave 54.2% $EtPh$; 0.5 mole $ClCH_2CO_2Me$ and 0.125 mole $AlCl_3$ did not react; 1/15 mole each of Me_2CBrCO_2Et and $AlCl_3$ gave 19.2% EtPh, while 8% yield was obtained from 0.25 mole $NCCH_2CO_2Et$ and 0.125 mole $AlCl_3$; no reaction took place with $CO(OMe)_2$ and $AlCl_3$, but 0.125 mole $(CO_2Et)_2$ and 0.125 m. $AlCl_3$ gave 15.4% EtPh, and 12.5% EtPh was formed from 0.125 mole $CH_2(CO_2Et)_2$ and 0.125 mole $AlCl_3$; 0.125 mole $PhSO_2Me$ and 0.25 mole $AlCl_3$ gave 32% MePh; no reaction took place with Et_2O and $AlCl_3$ or $SbCl_5$; 0.125 mole $(PhCH_2)_2O$ gave 91.5% Ph_2CH_2 with 0.125 mole $AlCl_3$, while 79.9% was obtained with $SnCl_4$ and 40.5% with $SbCl_5$. Generally, esters which are expected to form complexes at the ester O gave alkylbenzenes. Esters of boric acid can react in 2 ways, since the complex with the catalyst can donate an alkyl or add the B atom to the Ph ring. If $EtONO_2$ is added to C_6H_6, addn. of $SbCl_5$ leads only to nitration.

G. M. Kosolapoff

11-9-54



PETROVA, A. M.

USSR.

Reaction of benzene with esters in the presence of various catalysts. B. V. Tronov and A. M. Petrova. *J. Gen. Chem. U.S.S.R.* 23, 1067–9(1953)(Engl. translation).—See *C.A.* 48, 8184a. H. L. H.

PETROVA, A. M.

"Comparing the Activity of Various Catalysts in the Gustavson-Friedle-Crafts Reaction." Cand Chem Sci, Tomsk Polytechnic Inst, Tomsk, 1954. (RZhKhim, No 21, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

PETROVA, A. M.

USSR/Chemistry - Reaction processes

Card 1/1 : Pub. 151 - 18/37

Authors : Petrova, A. M.

Title : Utilization of antimony pentachloride in the Gustavson-Friedel-Crafts reaction

Periodical : Zhur. ob. khim. 24/3, 491-493, Mar 1954

Abstract : The catalytic effect of $SbCl_5$ during reactions of benzene with some hydrocarbon halides, halides of carboxylic acid and ethylnitrate, was compared with the effect of the classical $AlCl_3$ and $SnCl_4$ catalysts. During the reaction with hydrocarbon halides the $SbCl_5$ catalyst was found much less effective than the $AlCl_3$ catalyst. $SbCl_5$ was found perfectly satisfactory in reactions with acid halides and ethylnitrate; the formation of a labile $SbCl_5$-ethylnitrate compound was observed in the latter case. It was established that this compound, which is an intermediate reaction product, is also capable of accelerating the reaction between the benzene and a new batch of ethylnitrate. Three references: 2-USSR and 1-German (1901-1953). Table.

Institution : The S. M. Kirov. Order of the Red Banner Polytechnicum, Tomsk

Submitted : September 25, 1953

PETROVA, A.M.

Variability of barley under the effect of trace elements and growth promoting substances. Sbor. trud. asp. i mol. nauch. sotr. /LF no.5:211-215 '64. (MIRA 18:3)

PETROVA, A.N.

[Booklet on safety engineering and industrial hygiene for shaper-finishers of ceramic, porcelain and faience articles] Pamiatka po tekhnike bezopasnosti i promyshlennoi sanitarii dlia formovshchika farforovykh, faiansovykh i keramicheskikh izdelii. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 8 p. (MIRA 15:3)
(Industrial safety) (Industrial hygiene) (Ceramics)

SAMOKHVALOV, G.K.; PETROVA, A.N.

Anatomical changes in solanaceous plants produced by "absorbing" vegetative hybridization. Izv.zap.KHGU 46:97-107 '53. (MIRA 11:11)

1. Kafedra fiziologii rasteniy i mikrobiologii Khar'kovskogo gosudarstvennogo universiteta.
(Grafting) (Nightshade) (Botany--Anatomy)

PETROVA, A.N., inzh.

Creative activity of textile workers in Ivanovo Province. Izobr.v SSSR 2 no.2:34-35 F '57. (MIRA 12:3)
(Ivanovo Province--Textile industry)

PETROVA, A.M.; BEZHNOV, S.V.

Inventors and efficiency promoters at Ivanovo textile mills. Tekst. prom. 18 no.5:62-65 My '58. (MIRA 11:5)
(Ivanovo Province--Textile industry)

BUGORKOVA, A.A.; PETROVA, A.N.; NOVIKOVA, Ye.N.

Detection of chlorine traces in benzyl and phenylethyl alcohols. Trudy VNIISNDV no.4:154-156 '58. (MIRA 12:5)
(Chlorine--Analysis) (Alcohols)

BULGARIA / Chemical Technology. Chemical Products and Their Applications. Food Industry. H

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 13558.

Author : Banov, P.; Petrova, An.; Georgiyev, G.
Inst : Not given.
Title : Low Methylated Pectins.

Orig Pub: Khimiya i industriya (Bolg.), 1958, 30, No 2, 51-53.

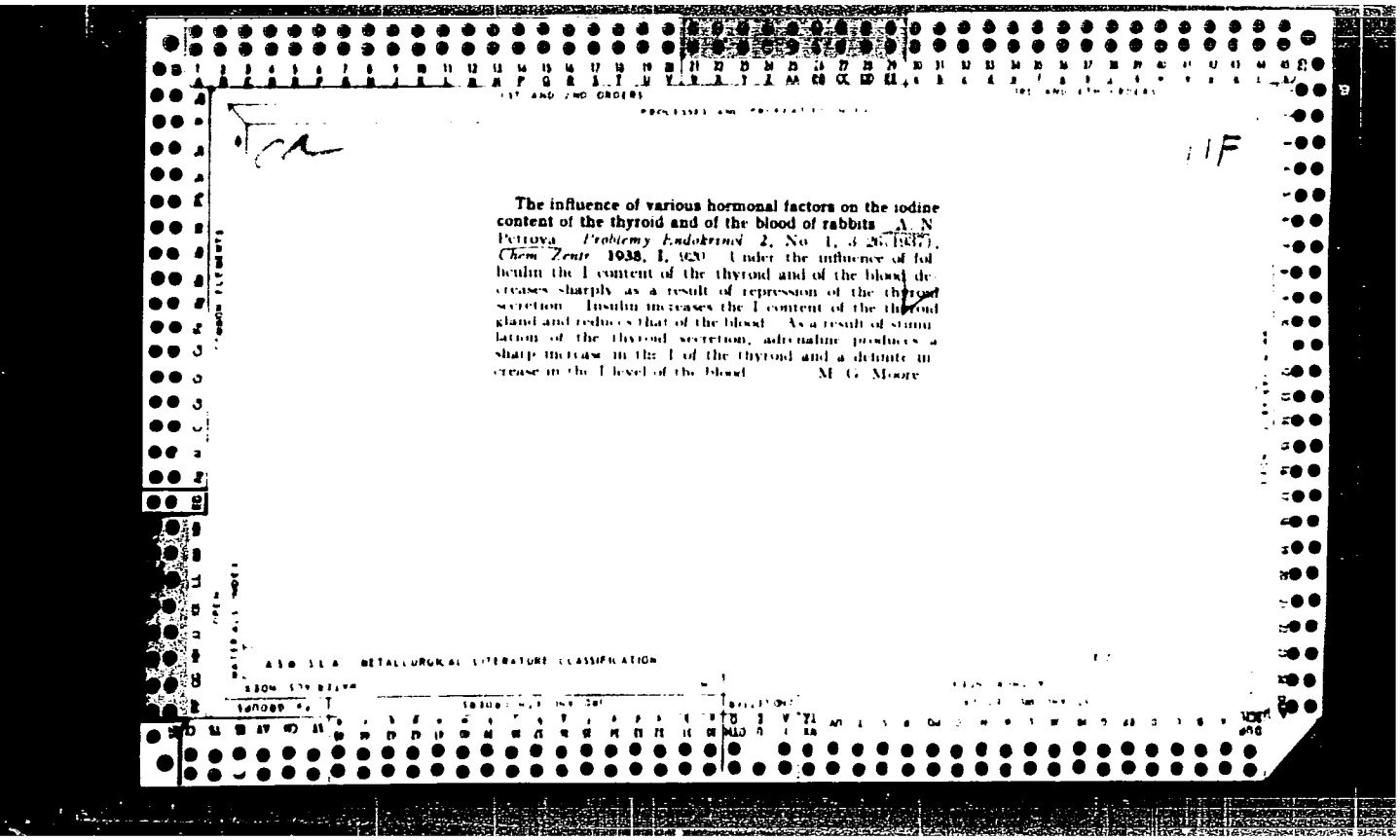
Abstract: Characteristics of low methylated pectins (LMP) are given. The most typical LMP have a 15-30% degree of esterification and a 2.5-4.5% content of methoxyl groups. A description of LMP is cited which is prepared by means of acid, alkaline and fermentative hydrolysis. A process of gelatinous LMP occurs in the presence of polyvalent cations (Ca salts) with a low concentration of sugar, or without sugar, and with a wide pH interval. The basic

Card 1/2

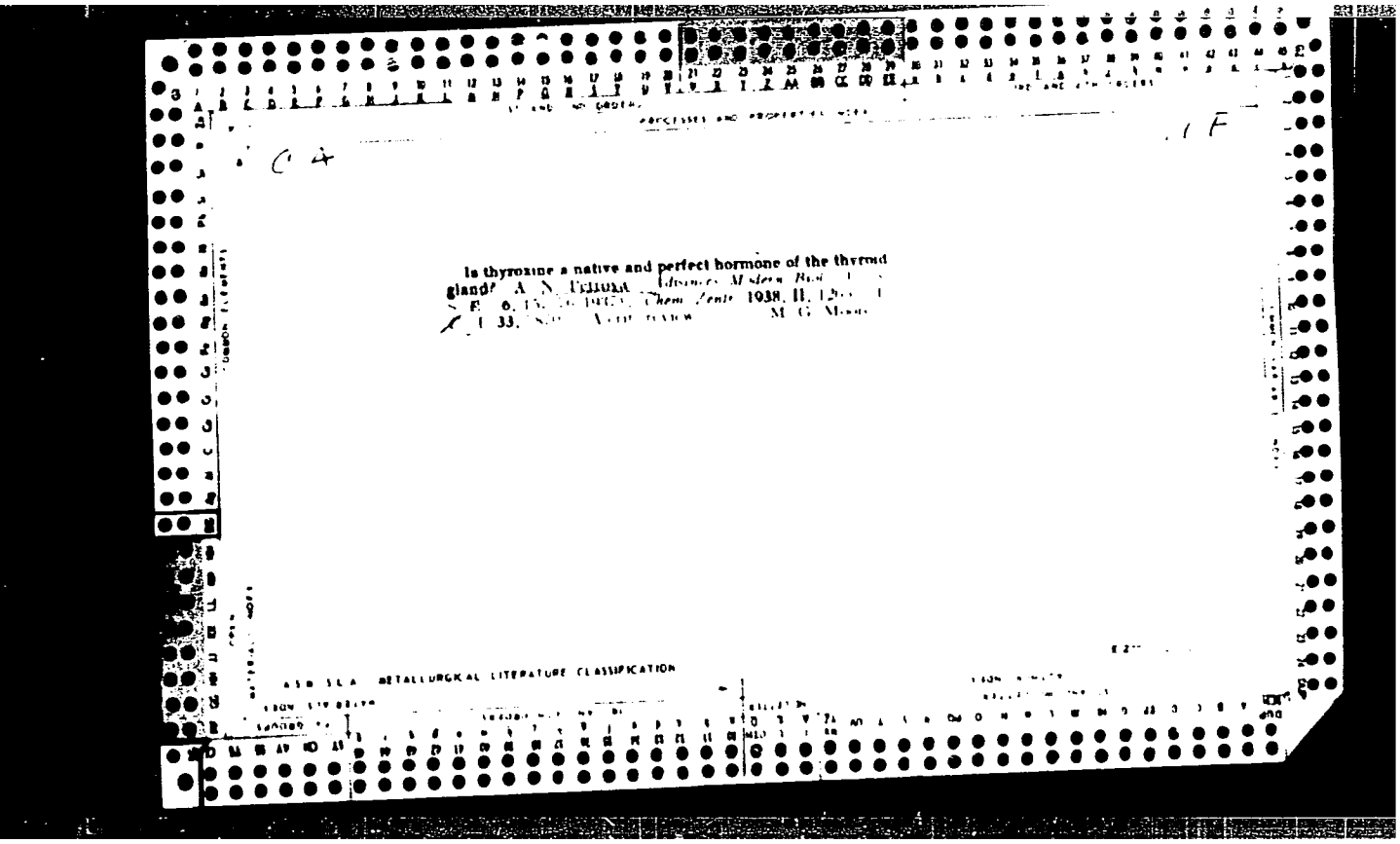
PETROVA, A.N.; FILIPPOVA, R.D.

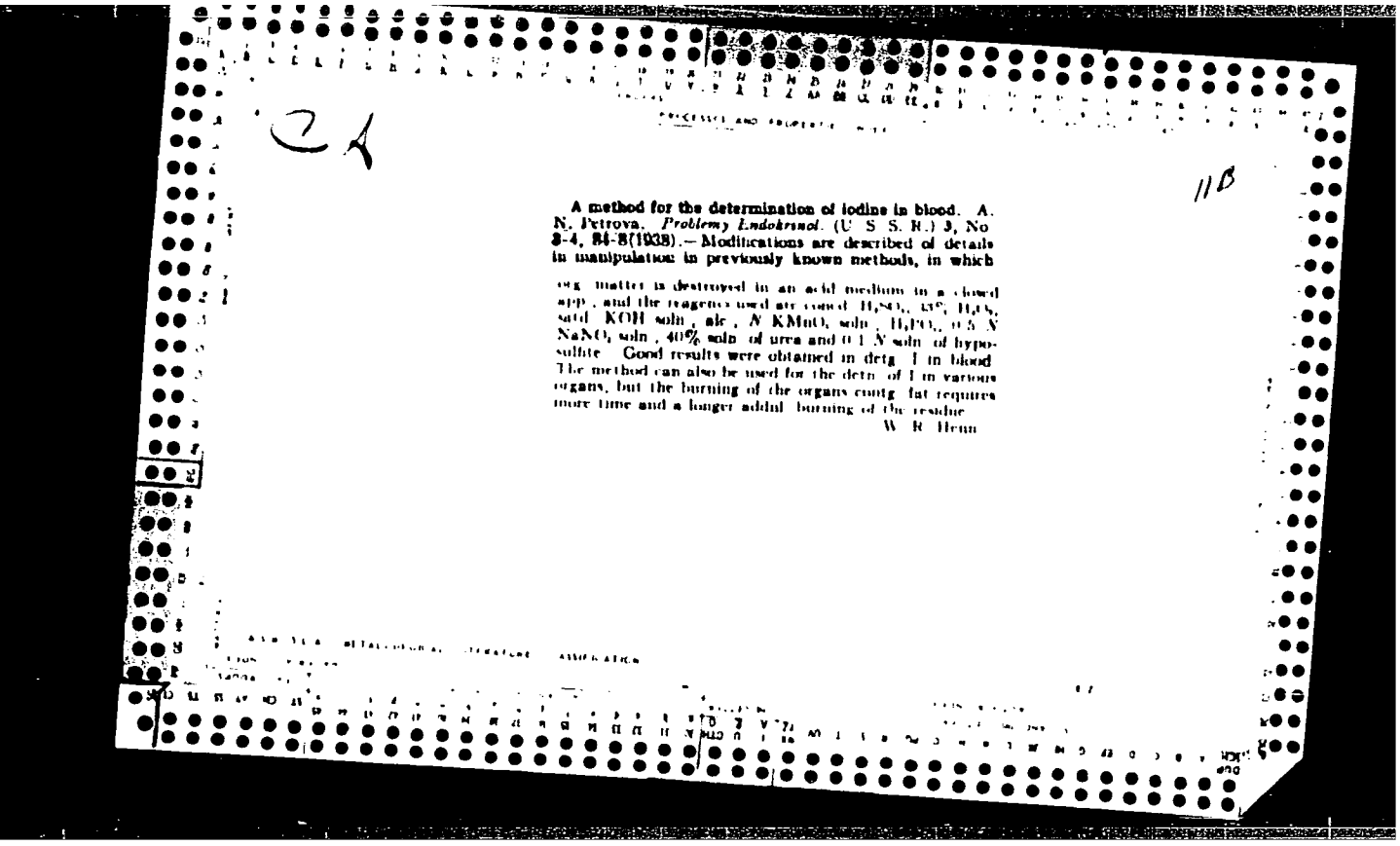
Characteristics of amylose isomerase and ribonucleic acid contained in it. Biokhimiia 30 no.2:438-442 Mr-Ap '65. (MIRA 18:7)

1. Institut biokhimii imeni Bakha AN SSSR, Moskva.



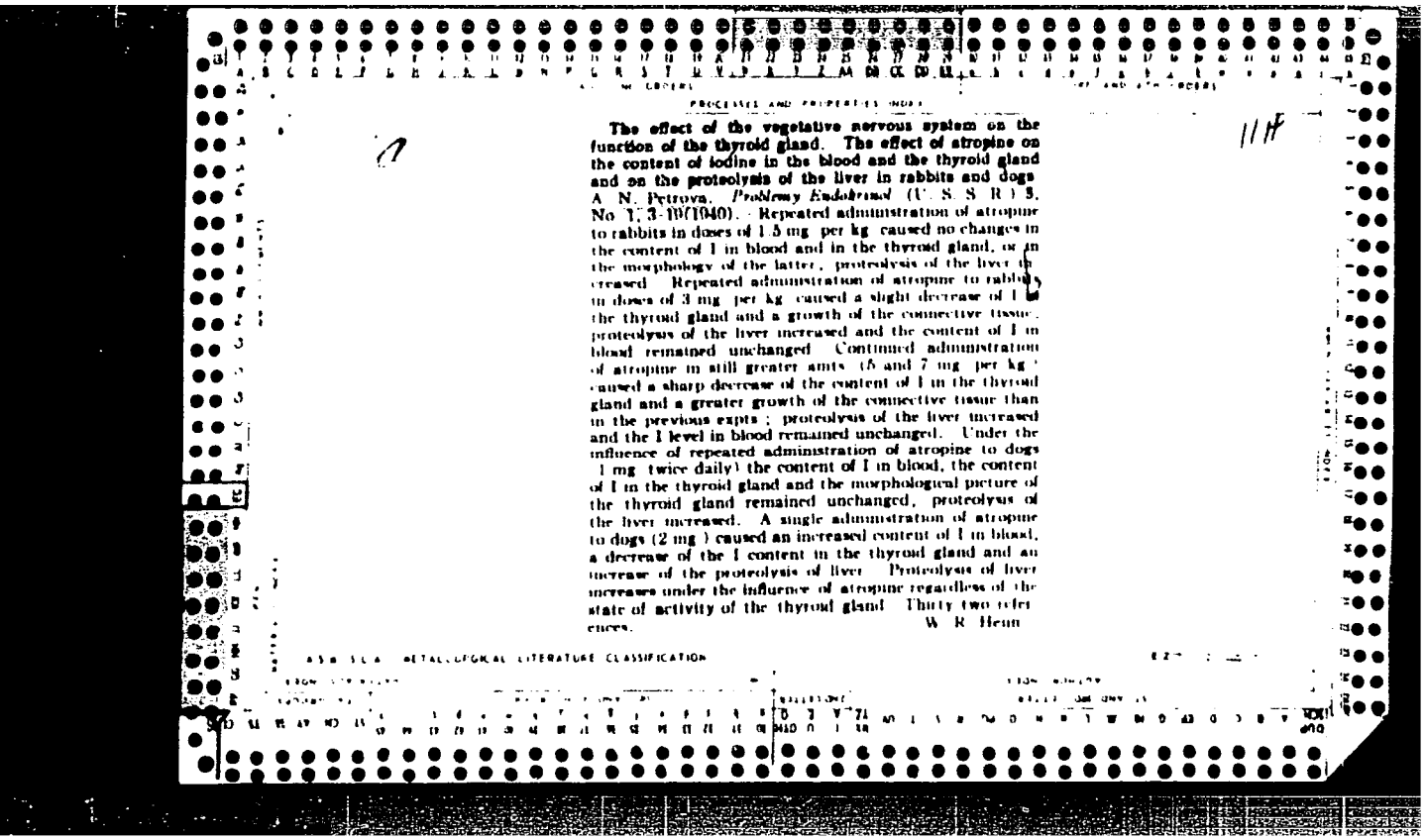
The influence of various hormonal factors on the iodine content of the thyroid and of the blood of rabbits A. N. Petrova. *Problemy Endokrinol.* 2, No. 1, 3-26 (1937); *Chem. Zentr.* **1938**, I, 930. Under the influence of full insulin the I content of the thyroid and of the blood decreases sharply as a result of repression of the thyroid secretion. Insulin increases the I content of the thyroid gland and reduces that of the blood. As a result of stimulation of the thyroid secretion, adrenaline produces a sharp increase in the I of the thyroid and a definite increase in the I level of the blood. M. G. Moore



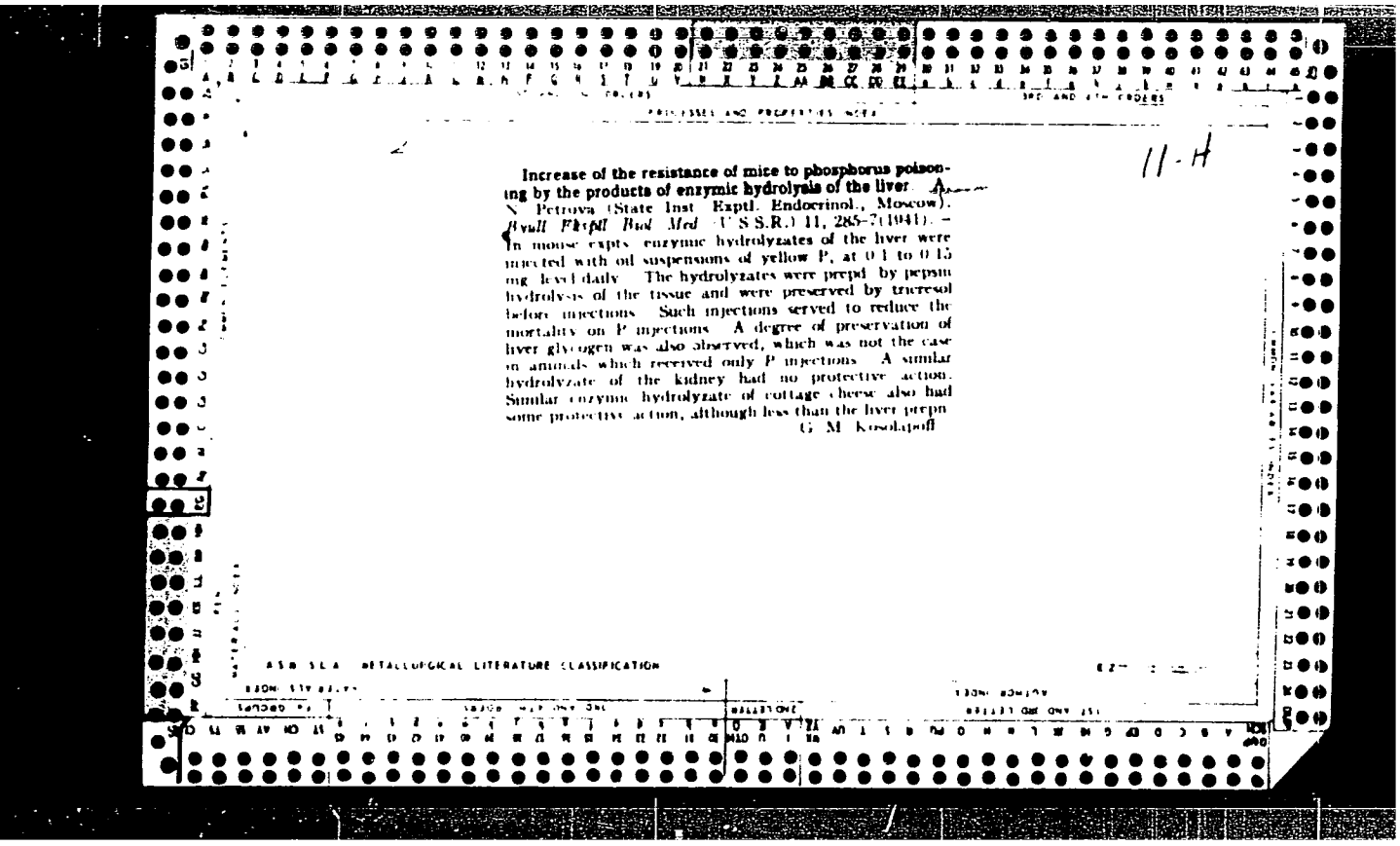


A method for the determination of iodine in blood. A. N. Petrova. *Problemy Endokrinol.* (U. S. S. R.) 3, No 3-4, 84-8(1938).—Modifications are described of details in manipulation in previously known methods, in which org. matter is destroyed in an acid medium in a closed app., and the reagents used are concd. H_2SO_4, 45°; H_2S; satd. KOH soln., alc., N $KMnO_4$ soln., H_3PO_4, 0.5 N $NaNO_2$ soln., 40% soln. of urea and 0.1 N soln. of hyposulfite. Good results were obtained in detg. I in blood. The method can also be used for the detn. of I in various organs, but the burning of the organs contg. fat requires more time and a longer additl. burning of the residue.

W. R. Heun



The effect of the vegetative nervous system on the function of the thyroid gland. The effect of atropine on the content of iodine in the blood and the thyroid gland and on the proteolysis of the liver in rabbits and dogs A. N. Petrova. *Problemy Endokrinol.* (U. S. S. R.) 3, No. 1, 3-19(1940). Repeated administration of atropine to rabbits in doses of 1.5 mg. per kg. caused no changes in the content of I in blood and in the thyroid gland, or in the morphology of the latter, proteolysis of the liver increased. Repeated administration of atropine to rabbits in doses of 3 mg. per kg. caused a slight decrease of I in the thyroid gland and a growth of the connective tissue; proteolysis of the liver increased and the content of I in blood remained unchanged. Continued administration of atropine in still greater amts. (6 and 7 mg. per kg.) caused a sharp decrease of the content of I in the thyroid gland and a greater growth of the connective tissue than in the previous expts.; proteolysis of the liver increased and the I level in blood remained unchanged. Under the influence of repeated administration of atropine to dogs (1 mg. twice daily) the content of I in blood, the content of I in the thyroid gland and the morphological picture of the thyroid gland remained unchanged, proteolysis of the liver increased. A single administration of atropine to dogs (2 mg.) caused an increased content of I in blood, a decrease of the I content in the thyroid gland and an increase of the proteolysis of liver. Proteolysis of liver increases under the influence of atropine regardless of the state of activity of the thyroid gland. Thirty two references. W. R. Heun



11-H

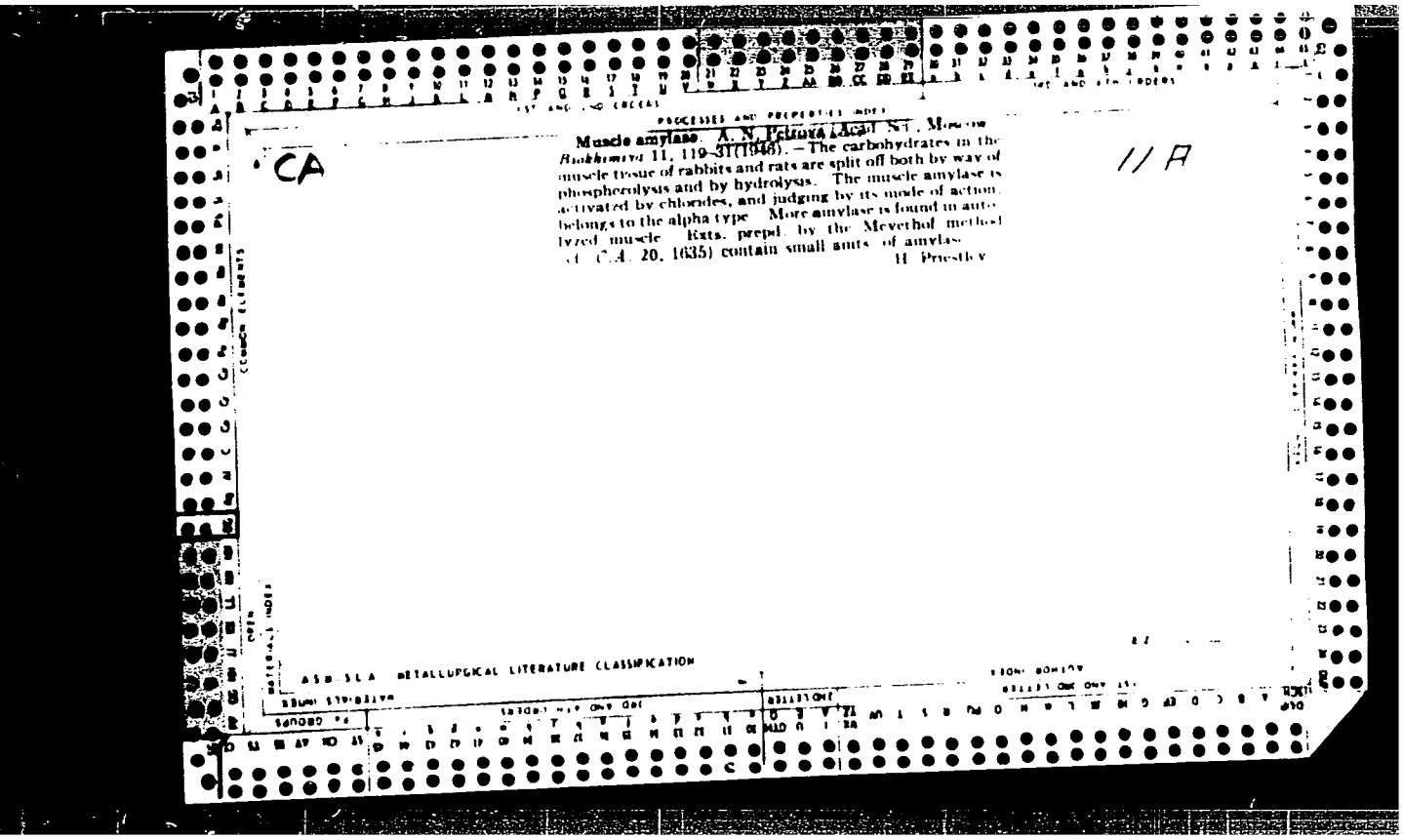
Increase of the resistance of mice to phosphorus poisoning by the products of enzymic hydrolysis of the liver. A. N. Petrova (State Inst. Exptl. Endocrinol., Moscow). *Byull. Eksptl. Biol. Med.* (U.S.S.R.) 11, 285–7 (1941). — In mouse expts. enzymic hydrolyzates of the liver were injected with oil suspensions of yellow P, at 0.1 to 0.15 mg. level daily. The hydrolyzates were prepd. by pepsin hydrolysis of the tissue and were preserved by tricresol before injections. Such injections served to reduce the mortality on P injections. A degree of preservation of liver glycogen was also observed, which was not the case in animals which received only P injections. A similar hydrolyzate of the kidney had no protective action. Similar enzymic hydrolyzate of cottage cheese also had some protective action, although less than the liver prepn.
G. M. Kosolapoff

ASB STLA METALLURGICAL LITERATURE CLASSIFICATION

PETROVA, A.N.

"Anti-thyreoidic Substances" (p.65) by A.N. Petrova (Moscow)

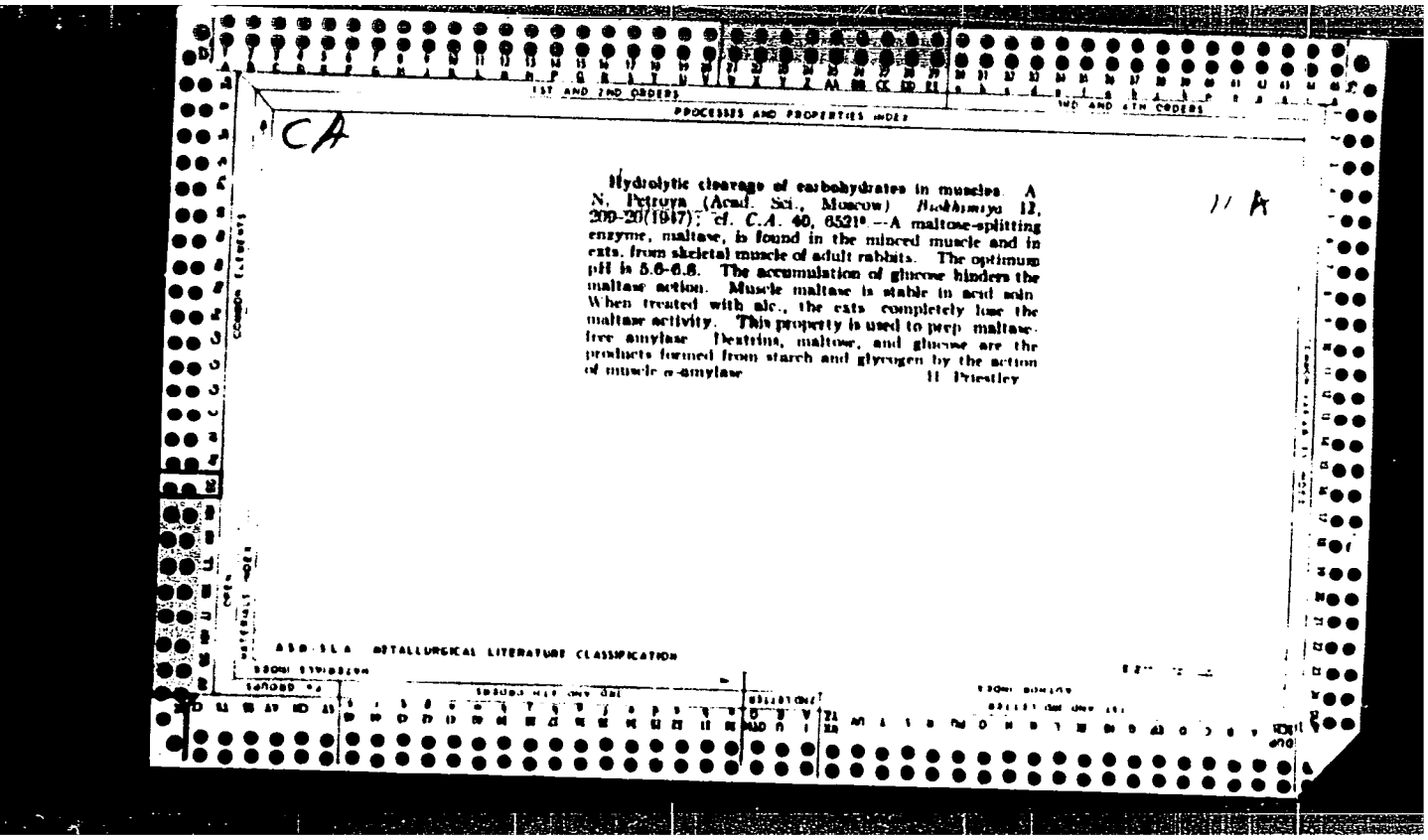
SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. XV, 1942, No. 1



CA

Muscle amylase. A. N. Petunova (Acad. Sci., Moscow). *Biokhimiya* 11, 119-31(1946). — The carbohydrates in the muscle tissue of rabbits and rats are split off both by way of phosphorolysis and by hydrolysis. The muscle amylase is activated by chlorides, and judging by its mode of action belongs to the alpha type. More amylase is found in autolyzed muscle. Exts. prepd. by the Meyerhof method (cf. C.A. 20, 1635) contain small amts. of amylase.
H. Priesley

11 A



CA

Hydrolytic cleavage of carbohydrates in muscles. A. N. Petrova (Acad. Sci., Moscow). *Biokhimiya* 12, 209-20(1947); cf. *C.A.* 40, 6521⁹.—A maltose-splitting enzyme, maltase, is found in the minced muscle and in extn. from skeletal muscle of adult rabbits. The optimum pH is 5.6-6.8. The accumulation of glucose hinders the maltase action. Muscle maltase is stable in acid soln. When treated with alc., the extn. completely loses the maltase activity. This property is used to prep. maltase-free amylase. Dextrins, maltose, and glucose are the products formed from starch and glycogen by the action of muscle α-amylase. H. Priestley

11 A

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

1/17

An enzyme of muscle which is able to split the 1 6 bond in polysaccharides A. A. Petrova. *Doklady Akad. Nauk* S.S.S.R. **58**, 431 3 (1947). *Chem. Zentr.* (Russian Zone Ed.) **1948**, II, 741. A dialyzed ext. of ... muscle was found to contain an enzyme able to split the 1 6 glucoside bond. The action of the enzyme on glycogen yielded glucose, maltose, and only slight amt. of reducing dextrins. Acidification of the ext. produced a ppt. which contained an enzyme possessing amylolytic properties. This enzyme was similar to the Q enzyme obtained from potatoes. Starch was broken down with the ... starch-iodine color changing to a stable red violet. The action of the enzyme differs in this respect from that of amylase, since the latter causes the starch iodine color to disappear rapidly. The enzyme was inactivated by boiling or by treatment with alc. M. L. Moore

1ST AND 2ND ORDERS

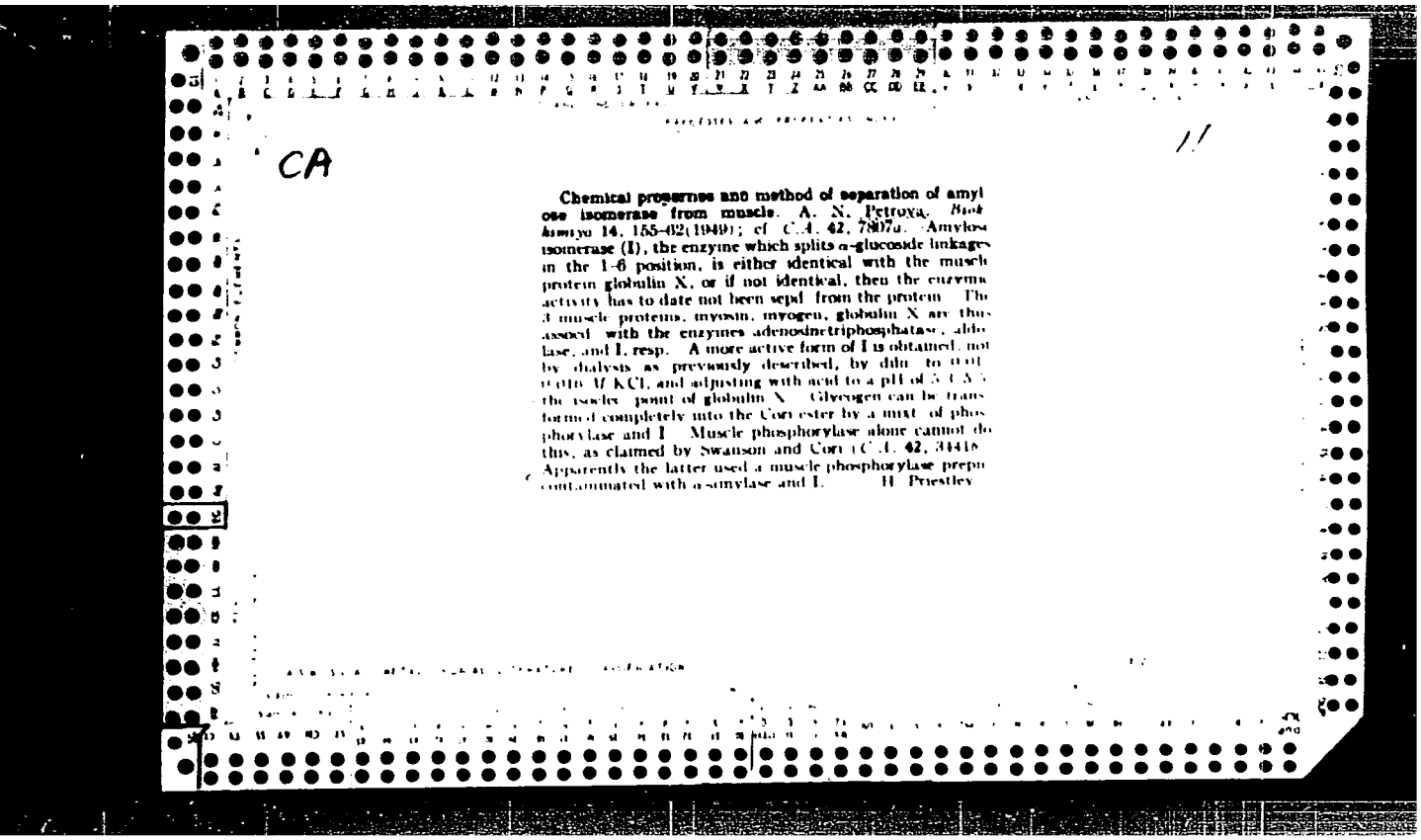
PROCESSES AND PROPERTIES INDEX

CA

1(a)

The enzymic hydrolysis and synthesis of muscle glycogen. A. N. Petrova (Acad. Sci., Moscow). *Biokhimiya* 13, 244-52(1948); cf. C.A. 41, 6907*h*.—The muscle enzymes known to date (phosphorylase, amylase, maltase) act on polysaccharides with the α glucoside linkage in the 1,4 position. Polysaccharides linked in the 1,6 position are resistant to the action of the above enzymes. A muscle enzyme, called amylose isomerase, has now been discovered which can synthesize and hydrolyze polysaccharides with 1,6 linkages. To prep. amylose isomerase, the muscle from a freshly killed rabbit is chopped while cold and at once suspended in a bicarbonate buffer (0.30% $NaHCO_3$ and 0.1% Na_2CO_3). The muscle is extd. for 30-40 min., after which the ext. is filtered and dialyzed against tap water for 24 hrs. After dialysis, there is added to the ext. KCl in an amt. so that its concn. in the ext. is 0.2 *M*. The ext. is made alk. to pH 7.5. After thorough mixing, the ext. is centrifuged and acidified with 0.5 *N* HCl to pH 5.5. The ppt. is centrifuged, washed twice with distd. H_2O acidified to pH 5.5. The washed ppt. is dissolved at pH 7.2-7.4 with 0.1 its vol. of 0.2 *M* KCl, based on the initial vol. of the ext. The insol. portion is removed by centrifugation, and discarded. Further purification of the enzyme consists in its repeated pptn., soln., and removal of insol. particles (2-3 times). The enzyme soln. is colorless, slightly opalescent, and can be preserved under toluene for several weeks in the refrigerator. The enzyme prepd. as herein described does not contain phosphorylase, amylase, or maltase. By the successive actions of β-amylase and amylose isomerase, glycogen and starch are transformed into fermentable sugars. As is known, muscle phosphorylase acts on glucose 1-phosphate to yield an amylose which is insol. in H_2O, gives a blue color with I, and is hydrolyzed by β-amylase to the extent of 98%. By the combined action of phosphorylase and amylose isomerase on glucose 1-phosphate, a polysaccharide akin to glycogen is formed. The polysaccharide is sol. in H_2O, is colored red-brown by I, does not contain reducing groups, and 48% of it is hydrolyzed by β-amylase. H. Priestley

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

11

Chemical properties and method of separation of amylose isomerase from muscle. A. N. Petrova. *Biokhimiya* 14, 155-62(1949); cf. *C.A.* 42, 7807a. Amylose isomerase (I), the enzyme which splits α-glucoside linkages in the 1-6 position, is either identical with the muscle protein globulin X, or if not identical, then the enzyme activity has to date not been sepd. from the protein. The 3 muscle proteins, myosin, myogen, globulin X are thus assocd. with the enzymes adenosinetriphosphatase, aldolase, and I, resp. A more active form of I is obtained, not by dialysis as previously described, by dilg. to 0.01 equiv. M KCl, and adjusting with acid to a pH of 5.4-5.5, the isoelec. point of globulin X. Glycogen can be transformed completely into the Cori ester by a mixt. of phosphorylase and I. Muscle phosphorylase alone cannot do this, as claimed by Swanson and Cori (*C.A.* 42, 3441b). Apparently the latter used a muscle phosphorylase prepn. contaminated with amylase and I. H. Priestley

PROCESSES AND PROPERTIES INDEX

CA

11a

Preparation of highly purified muscle phosphorylase

V. N. Petrova, E. L. Rozenfel'd, L. B. Lebedeva, and L. N. Spitsina. *Doklady Akad. Nauk S.S.S.R.* 66, 1141-3(1949). Cold rabbit muscle is minced and extd. by an equal vol. of cold H_2O for 10 min. twice at 1-5°. The exts. are filtered through paper and the clear soln. mixed with 0.7 vol. satd. $(NH_4)_2SO_4$ at pH 9.3-9.5 (prepd. by passage of NH_3 into soln.). The crystn. suspension is let stand overnight at -4°, centrifuged, washed 6-7 times by buffer soln. (0.47 KCl, 0.1 Na_2CO_3, 0.30% $NaHCO_3$), dissolved in $(NH_4)_2SO_4$ (0.7 satd.) soln. of 1/3 vol. of original ext. at pH 6.2-6.4. The amorphous ppt. is centrifuged off and is washed 1-2 times by the same soln. and is suspended in 1/10 wt. (calcd. on muscle used) of 1% glycerophosphate contg. 0.02 *M* cysteine-HCl. The solid is removed after 1 hr. and the clear neutral soln. is ready for enzymic study. The soln. is free of amylase, amylose isomerase, maltase and PR-enzyme. The product splits glycogen only up to the sites of branching. With glucose 1-phosphate it yields an amylose-type polysaccharide giving blue I test. G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PETROVA, A. N. Doc Biolog Sci

Dissertation: "Studying the Process of Enzymatic Decomposition and Synthesis of Glycogen in Muscles." 28/12/50

Inst of Biochemistry imeni A. N. Bakh, Acad Sci USSR

SO Vecheryaya Moskva
Sum 71

CA

1-

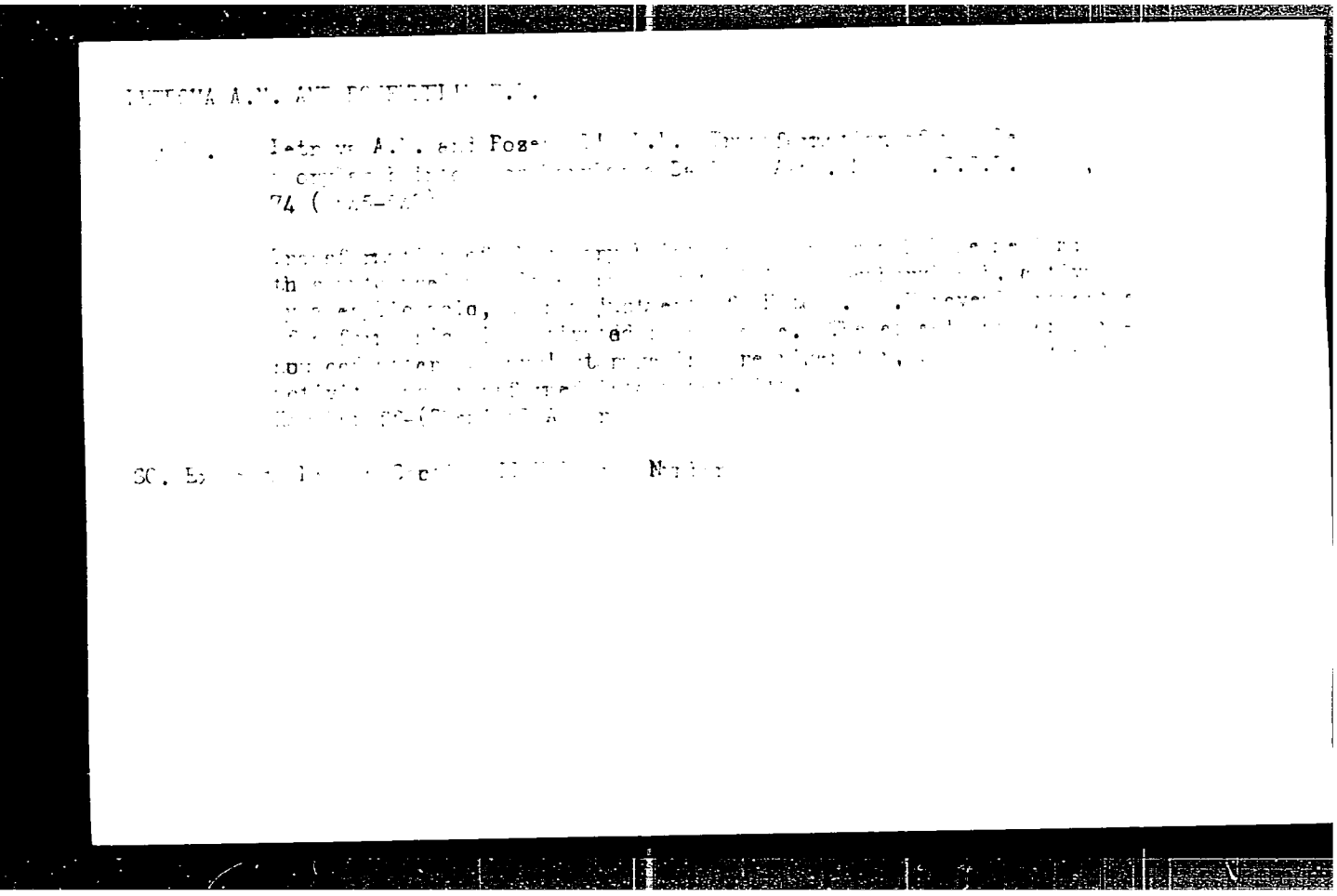
The amylolysis and phosphorolysis of muscle glycogen
A. N. Petrova and M. B. Lebedeva (Acad. Sci., Moscow), *Biokhimiya* 15, 277–82(1950); cf. *C.A.* 42, 7807*a*, 43, 7986*h*.—The decompn. of carbohydrates in muscle proceeds not only by way of phosphorolysis, but also by hydrolysis. Both amylase and phosphorylase are found in muscle prepd. in the cold, or by autolysis for 1–2 days at room temp. As is known, glycogen phosphorolysis proceeds in the presence of phosphates and of adenylic acid; amylolysis, in the presence of chlorides. Phosphorolysis *in vitro* is unaffected by the presence of chlorides, and amylysis by the presence of phosphates and adenylic acid. Glycogen is decompd. *in vitro* much more rapidly by the combined action of phosphorylase and amylase than by the sep. action of these enzymes. H. Priestley

(BA - A III Ja 53:33)

Lab. Phys. & Chem., AS USSR, & Inst. Biol. & Med. Chem., AMS USSR

C. A. 11A

Action of highly purified muscle phosphorylase. A. N. Petrova and R. I. Rozenfel'd (Lab. Physiol. Chem., Acad. Sci., Moscow). *Biokhimiya* 15, 400-15(1950); cf. C. A. 43, 5438i, 7086i. Repeated attempts to obtain cryst. phosphorylase by Cori's method (C. A. 38, 758⁹) failed. On following the exact directions of the Cori method, phosphorylase *a* was usually obtained, but in the amorphous condition, mixed with amylase and amylose isomerase. A muscle phosphorylase, free from traces of other carbohydrases and the PR-enzyme was prepd. as follows: The clear aq. ext. of rabbit muscle (2 extns. of muscle for 10 min. at 1-5° with an equal vol. of distd. water) was treated with 0.7 vol. of a satd. $(NH_4)_2SO_4$ soln. of pH 9.3-9.5 (adjusted with gaseous NH_3). After 15-20 min., a cryst. ppt. contg. phosphorylase formed. This was allowed to stand overnight at 4-6°. The ppt. was sepd. by centrifugation, and washed 6-7 times with a cold buffer soln. contg. 0.47% KCl, 0.1% Na_2CO_3, and 0.36% $NaHCO_3$. The cryst. ppt. was dissolved in 0.33 vol. (based on original aq. muscle ext.) $(NH_4)_2SO_4$ soln. of 40% satn., at a pH of 6.2-6.4 (with NH_4OH). The enzyme, along with some protein impurities, then pptd. The ppt. was sepd. by centrifugation and treated with a soln. of 1% glycerophosphate mixed with 0.2 *M* cysteine-HCl. The vol. was 2% of the initial muscle. The phosphorylase dissolved. The insol. part was discarded. The completely colorless clear ext., of neutral reaction, was used for the enzymic tests. The carbohydrate synthesized by this phosphorylase *in vitro* had the properties of an amylose. It gave a blue-green coloration with I, and was completely hydrolyzed by β-amylase. When a mixt. of phosphorylase and amylose isomerase was employed, a polysaccharide of the glycogen type was obtained, which gave a yellow-brown coloration with I, and 40% of it was decompd. by β-amylase. The purified muscle phosphorylase hydrolyzed glycogen to the dextrin stage and no further. Expts. with the highly purified phosphorylase confirmed the increased rate of phosphorolysis (but not synthesis) of glycogen in the presence of myosin (C. A. 43, 2252b). H. Priestley



CA

11 A

New data on the study of glycogen and its biological transformations B. N. Stepanenko, A. N. Petrova, and E. I. Rozenfel'd. *Izvest. Akad. Nauk S.S.S.R., Ser. Biol.* 1951, No. 1, 89-106; cf. *C.A.* 43, 7988h; 9109b.—The results of the earlier studies on glycogen are summarized as follows: The color produced by I-glycogen system and the intensity of color depends exclusively on the length of glycogen side chains. Enzymic reduction of chain length causes the extinction and abs. max. to decline (the latter to shorter waves). In the course of reactions of glycogen with enzyme systems protein mols. play a role affecting the course of glycogen degradation. Thus myosine accelerates phosphorolysis of glycogen but does not affect the reaction of alkali-treated glycogen. While glucose is the final product of 2 paths exist, a one-step process by the action of α-amylase which is cleaved by maltase. The new enzyme, amylose isomerase, having the properties of a globulin, has been isolated from muscle tissue, it permits deeper than usual cleavage of glycogen residues by β-amylase so that by successive addns. of the enzyme it is possible to cleave glycogen to fermentable sugars. The isomerase is remarkably stable being only partly inactivated by 10^{-3} M in 0.5 hr. Expts. with D_2O tracing in frog glycogen in vivo showed that during liver-glycogen decline not only its breakdown but a simultaneous biosynthesis of the substance occurs; this event cannot be detected except by tracer methods. The mechanism of glycogen cleavage is discussed. G. M. K.

PETROVA, Antonina Nikolayevna; TABUNINA, M.A., red.; TARKHOVA, K.Ye., tekhn. red.

[Safety manual for pressers of ceramic and pottery-porcelain products] Pamiatka po tekhnike bezopasnosti dlia pressovshchika keramicheskikh i farforo-faiansovykh izdelii. Moskva, Gosstroiizdat, 1963. 17 p. (MIRA 17:2)

PETROVA, A. N.

USSR/Biology (Agriculture) - Starch From Potatoes Sep/Oct 51

"Starch and Its Formation in Potatoes," B. N. Stepanenko, Ye. L. Rosenfel'd, A. N. Petrova, A. V. Kotel'nikova, Moscow

"Uspekh Sovrem Biol" Vol XXXII, No 5, pp 193-231

Potatoes are a very important crop in the USSR; 7.7 million hectares were planted under potatoes before World War II and the acreage was 5% higher in 1950. Yield from 1 hectare corresponds to 1,600 liters of alc, which may serve as raw material for synthetic rubber. While yields were raised by 21% during the past 10 yrs, the starch content is often inadequate. A number of interesting investigations on starch formation in potatoes was carried out at the Inst of Biochem imeni Bakh, Acad Sci USSR. This work and other data will help in raising the starch content. Reviews in detail the present status of the problem of phytochem starch formation.

196T1

CA

11 F

Cofactor that hastens the glycogen breakdown in the muscle. A. N. Petrova. *Doklady Akad. Nauk S.S.S.R.* 78, 551–2(1951).—Enzymic cleavage of glycogen is affected by a coenzyme-like factor. If an undialyzed muscle ext. is used, the rate curve shows a rapid rise of reducing substances, followed by a sharp break; a dialyzed ext. gives a moderately steep curve with a very small break. This is caused by the difference in phosphorolytic activity, influenced by the above factor present in undialyzed exts. The factor freed of enzymes (procedure not specified) clearly endows the dialyzed ext. with phosphorolytic activity, especially well shown in expts. with *d*-dextrin which is greatly accelerated by this cofactor, in comparison with action of phosphorylase alone, or with amylose isomerase. Since glycogen cleavage in alloxan diabetes is retarded, it is possible that weakening of the cofactor activity is responsible.

G. M. Kosolapoff

Lab. Physiol. Chem., Ac. USSR

PETROVA, A.N.; ROZENFEL'D, Ye.L.

Phosphorylase in muscles and its properties. Izv. Akad. nauk SSSR. Ser. biol. no.4:133-138 July-Aug 1952. (CIML 23:2)

1. Laboratory of Physiological Chemistry, Academy of Sciences USSR.

PETROVA, A.N.

Certain properties of isomerase of amylose. Biokhimiia, Moskva 17 no.2:129-133 Mar-Apr 1952. (CIML 24:5)

1. Laboratory of Physiological Chemistry of the Academy of Sciences USSR, Moscow.

PETROVA, A.N.

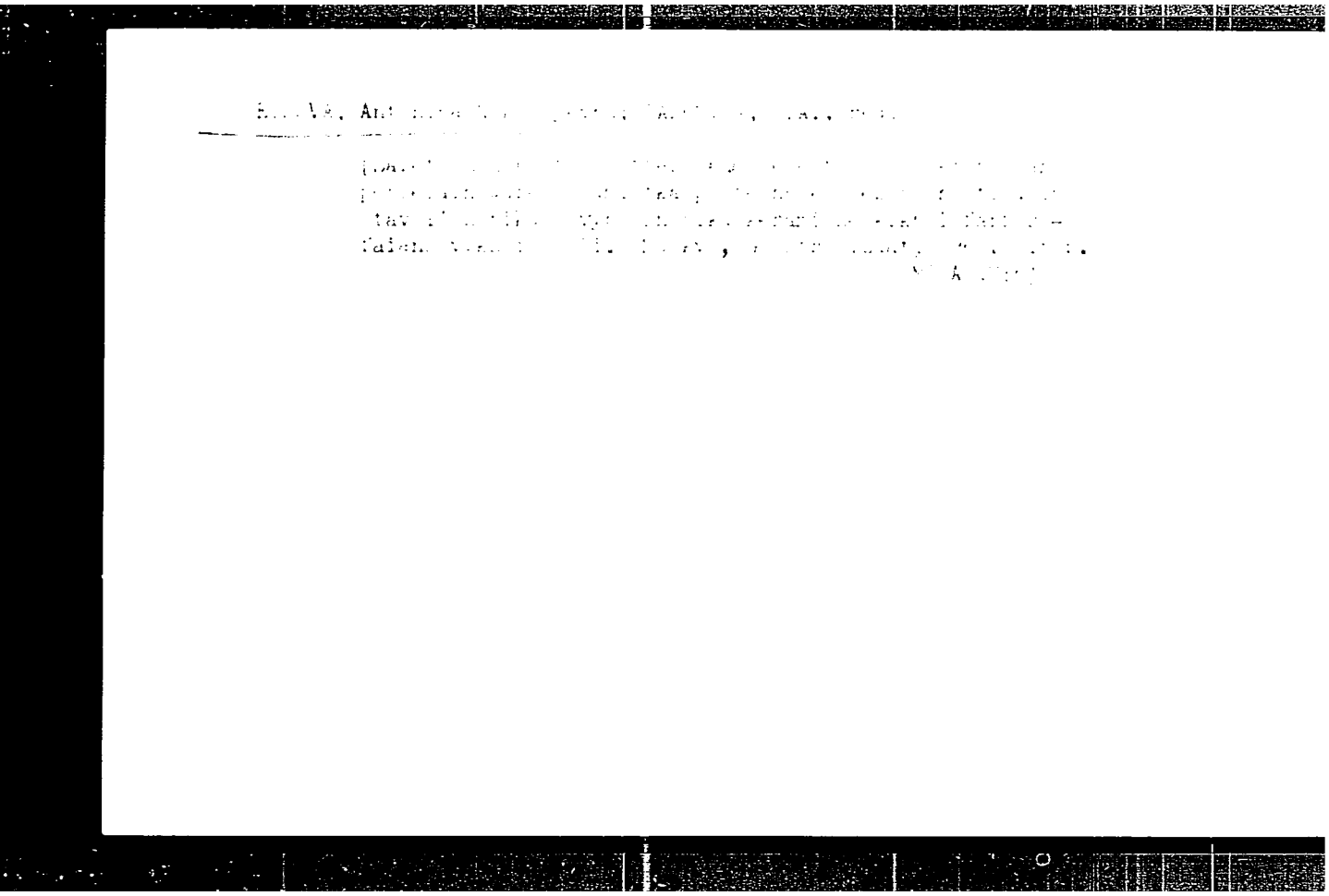
RT-129 (Study of the processes of enzymatic glycogen decomposition in muscles of rabbits with alloxan diabetes). Izuchenie protsessov enzimaticheskogo raspada glikogena v myshtsakh pri alloksanovom diabete u krolikov.
Biokhimiia, 17: 469-475, July-August, 1952.

CA

Enzymic synthesis and cleavage of starch in potato tubers with different soil fertilization A N Petrova and T T Bolotina *Doklady Akad Nauk S S S R* **84**,1205 7(1952)

Differences in hydrolytic and synthetic actions of potato eats derived from plants grown with or without fertilizer are shown only in young specimens In ripe tubers the differences are slight Young potato tubers grown with fertilizer show a greater synthetic activity than those grown without fertilizer The difference is particularly apparent in dialyzed eats (results shown only graphically) The hydrolytic activity of the eats, judged by accumulation of reducing substances in incubation mixt with starch, was studied with nondialyzed specimens only The young tubers grown with fertilizer show much weaker hydrolytic action, than specimens grown without fertilizer

G M Kosolapoff



PETROVA, A.N.

Mechanism of action of the co-factor accelerating decomposition of glycogen in muscles. Doklady Akad. nauk SSSR 86 no. 1:133-136 1 Sept 1952. (CIML 23:3)

1. Presented by Academician A. I. Oparin 24 June 1952. 2. Laboratory of Physiological Chemistry, Academy of Sciences USSR.

PETROVA, A.N.; BOLOTINA, T.T.; KOBZEVA, A.A.

Investigation of the processes of synthesis and hydolysis of starch in potato tubers at various periods of vegetation. Biokhimiya 18, 47-50 '53. (MLRA 6:1)
(CA 47 no.15:7606 '53)

1. Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow.

BOLOTINA, T.T.; PETROVA, A.N.

Phosphoglucomutase of potato tubers. Doklady Akad. Nauk S.S.S.R. 88, 1027-9 '53. (MLRA 6:2)
(CA 47 no.21:11359 '53)

P.TROVA. /.

PETROVA, A.N.

(4)

The processes of enzymic synthesis and splitting of starch in potato tubers at different temperatures. A. N. Petrova, T. T. Bolotina, and A. A. Kobzeva (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 19, 64–7 (1954); cf. *C.A.* 47, 760*f*.—Potato tubers, variety Lorkh, at different temps. have a different content of starch and reducing substances. The starch-splitting properties of tubers kept at higher temps. are not as great as when stored at lower temps. The synthetic and phosphoglucomutase activities do not seem to differ. B. S. Levine

Petrova A. N.

Studies in the enzymic synthesis of glycogen in muscles under normal conditions and in alloxan diabetes. A. N. Petrova (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 19, 197-201(1954); cf. *C.A.* 47, 765d.—The enzymic synthesis of glycogen in the muscles of normal rabbits and those with alloxan diabetes proceeds in a similar manner. In both instances the synthesis differs with different tissues. In freshly ground muscle tissue and in freshly dialyzed muscle tissue exts., such synthesis appears to be absent. In washed and purified ground muscle tissue, glycogen synthesis of a low level can be detected. In the presence of isolated phosphorylase and amylo-isomerase the process of glycogen synthesis proceeds with ease and rapidity.
—B. S. Levine

PETROVA, A.N.

Phosphoglucomutase of potato tubers in their aging and storage. T. T. Bolotina and A. N. Petrova. *Doklady Akad. Nauk S.S.S.R.* 95, 113[illegible] C.A. 47, 11359g.—The phosphoglucomutase activity of potato tubers (measured on aq. exts.) drops as the tubers ripen and accumulate starch; however, the synthetic activity (in respect to starch formation) increases with ripening. The effect was most pronounced after storage of the tubers for 1 month. The phosphoglucomutase of the potato is activated by Na_2SO_4 and $MgSO_4$. G. M. Kosolapoff

PETROVA, A. N.

Preparation of synthetic glycogens. A. S. Kuinova, B. N. Stepanenko, and A. N. Petrova. *Doklady Akad. Nauk S.S.S.R.* 95, 1029-[illegible]. Glycogen synthesis was accomplished by utilization of glucose-1-phosphate with the aid of phosphorylase and amylose isomerase in the presence of a small amt. of catalyst glycogen and cysteine. The best concn. of 1-glucose-1-phosphate was 0.016*M*, at pH 6.9-7.9 at 25°. The addn. of very small amts. of glycogen led to formation of amylopectin and amylose products; only when the added glycogen concn. reached 1 mg./ml. of the incubation mixt. did considerable amts. of glycogen-type products form (red-brown color with iodine). The results depend on a proper balance of activities of the 2 enzymes used; for best results phosphorylase of 40-60% activity should be employed with isomerase of very high activity; phosphorylase of lower activity still yields glycogen but in lower yields; high-activity phosphorylase, however, also tends to yield amylopectin-like substances. The best conditions are: per ml. mixt. use 6 mg. glucose-1-phosphate, 1 mg. glycogen, 0.125 ml. phosphorylase prepn. of 40-60% activity, 0.125 ml. isomerase prepn. of high activity; pH 6.9-7; 25°. At the desired time (10-32 hrs.) the synthesis is interrupted by CCl_3CO_2H, the protein ppt. sepd. and the soln. dialyzed against H_2O 2-3 days and the product ppd. with EtOH. In such an expt., after 16 hrs. 60% synthesis was attained with a product giving red-violet iodine test; in 32 hrs. the yield of synthetic activity was still 60% but the product gave red-brown iodine test. In another technique the enzymes and sugar phosphate can be added gradually and the used enzymes are periodically removed; the latter method generally gives better results.

G. M. Kosolapoff.

Lab. Physiol. Chem. AS USSR

PETROVA, A.A.

Preparation of glycogens in vitro with the aid of muscle enzymes, and a study of synthetic glycogens. B. N. Stepanenko, A. S. Kalnova, and A. N. Petrova (Acad. Sci. U.S.S.R., Moscow). *Congr. intern. biochim., Résumés communs., 3e Congr., Brussels* 1955, 50–1(in Russian and French); cf. *C.A.* 49, 8458e; 50, 2824c.—A series of synthetic glycogens (I) was synthesized *in vitro* from glucose-1-phosphate by the use of phosphorylase and the enzyme amylose isomerase. The mol. wts. of the I approached those of natural glycogens (II). Agglomerations of mass of about 20-fold were not accompanied by any increase of mol. wt. In their reactions with iodine, the I resembled II and differed considerably from amylopectins. Like II, the I formed complexes with myosin, demonstrated by shifts in the absorption max. in the ultraviolet. The structures and lengths of chains in I are discussed. W. C. Tobie

PETROVA, A. N.

The loss of utilization of glucose by liver during alloxan-diabetes. A. N. Petrova (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Problemy Endokrinol. i Gormonoterap.* 1, No. 3, 80-5(1955).—During alloxan diabetes in rabbits the liver tissue (slices or homogenates) loses to a degree the ability to utilize glucose, the mechanism of this process being directly related to lowered permeability to glucose of liver cells of diabetic animals.

J. A. Stekol

PETROVA, A.N.

USSR/Agriculture - Plant Ecology

FD-2389

Card 1/1 Pub 42-2/9

Author : Mishustin, Ye. N., Petrova, A. N , Karashchuk, I. M.

Title : The epiphyte microflora of esparsette seeds and increasing its yield.

Periodical : Izv AN SSSR Ser Biol. 2, 3-16, March-April, 1956

Abstract : In addition to the usual epiphyte microflora such as Bact. herbicola, Pseudomonas etc , the Alternaria tennis fungus, considered semiparasitic by the authors, lowers the rate of germination of esparsette, weakens its growth and decreases its yield. The effect of two fungicides, TMTDS and INUIF-2 or granozan, was investigated and granozan found to be more effective against this fungus. However, best results against Alternaria are obtained by a treatment of seeds with the fungicide Photographs; tables Nine references, all USSR (all after 1943).

Institution. : Institute of Microbiology Acad Sci USSR and the Institute of Farming of the Central Chernozem Belt imeni V V. Dokuchayev.

Submitted : November 26, 1955.

PETROVA, A. N.

[redacted]

MD

Reducing substances of the liver, muscles, and blood in normal health and in alloxan diabetes. R. M. Bekina and A. N. Petrova (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow).—*Biokhimiya* 20, 444–9(1955).—Diabetes was produced by 160–70 mg. of alloxan/kg. of rabbit body wt. The liver and muscles of the decapitated animals were frozen in liquid air. Protein-free CCl_3CO_2H filtrates were prepd. (without freezing in the case of blood). $Ba(OH)_2$ was added to slight alky. and 4 vols. of 96% EtOH was added. The ppts. contg. the Ba salts of the P compds. were subjected to fractional pptn. for the sepn. of free and phosphorylated sugars. Reducing substances are higher in muscles than in liver; and low in blood. Blood and liver tissue have a high content of free sugars, principally glucose, and to a lesser extent fructose. In exptl. diabetes the content of reducing substances is increased in all the tissues tested, particularly in the blood and liver tissue. The increase of glucose in the liver points to a disturbance in the processes related to the utilization of glucose. There appears in diabetes a lack of correlation between the reduction activity of the CCl_3CO_2H filtrate and the total reduction activity of the alc.-pptd. compds. It would appear as though some reducing substances of unknown nature are destroyed during the prepn. of the CCl_3COOH fraction. The fructose content in normal animals and in exptl. diabetes is equal. B. S. Levine

(1)

PETROVA, A.N.

EXCERPTA MEDICA Sec.2 Vol.9/10 Physiology,etc. Oct56

4504. PETROVA A.N. Lab. of Physiol. Chem., Acad. of Sci., Moscow. *The investigations of enzymatic process of glycogen metabolism in the liver in the course of alloxan diabetes (Russian text) BIOKHIMIJA 1955, 20/6 (718-724) Graphs 1 Tables 5

In normal rabbits the glycogenolysis in hepatic extracts is in equal degree phospho- and hydro(amylo-)lytic. In the course of alloxan diabetes the phospholysis increases and hydrolysis decreases, in comparison with normal values. The synthetic action of phospholase in hepatic extracts is feeble and the activity of phosphoglycomutase considerable. In the course of diabetes the activity of phosphorylase increases and that of phosphoglycocomutase diminishes.

Gaertner - Cracow

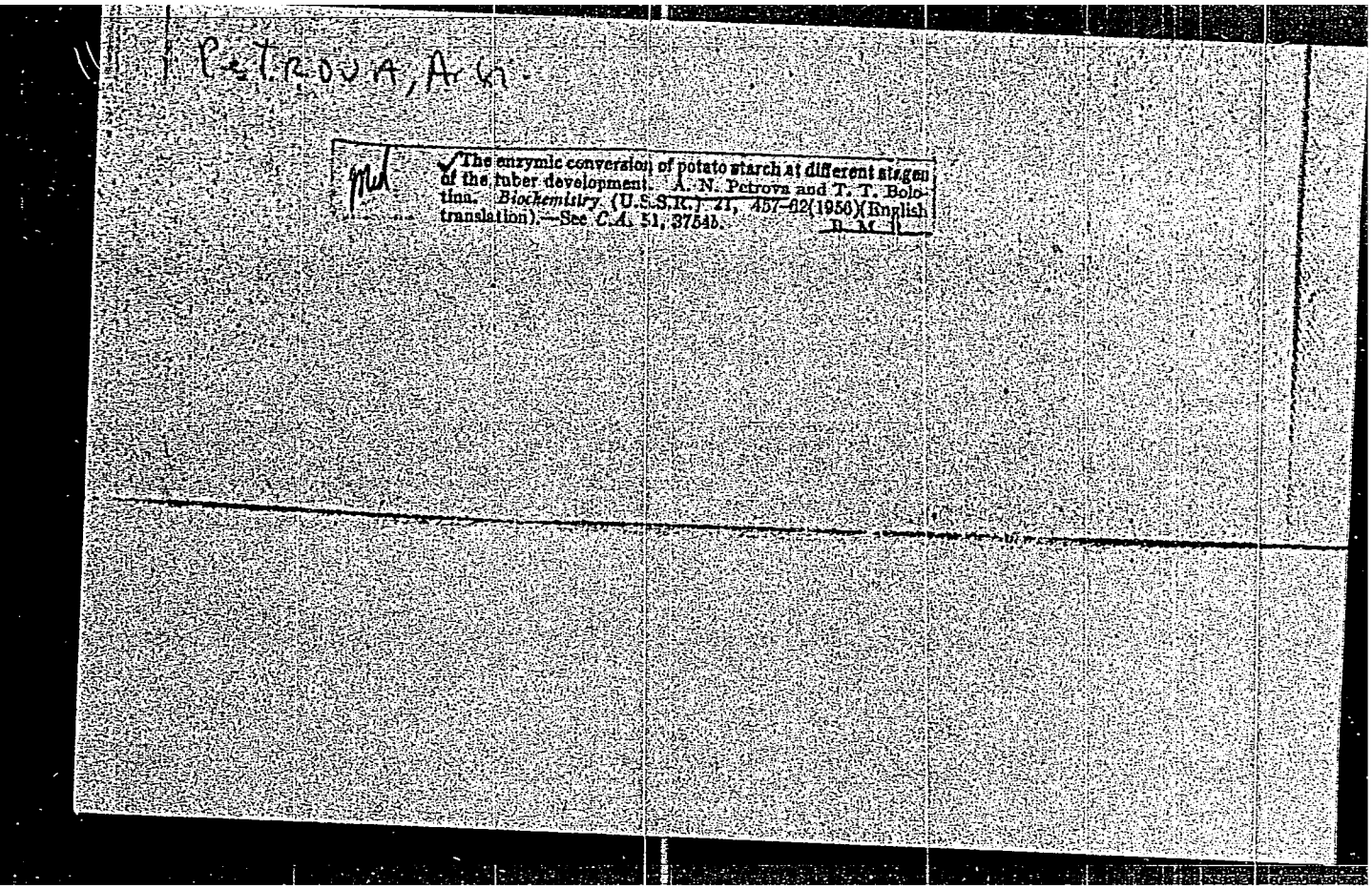
PETROVA, A.N.

The inhibition of the process of glucose phosphorylation by the liver in alloxan diabetes. A. N. Petrova and R. M. Beklim (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 21, 368-73(1956).—The results obtained with liver sections of alloxan diabetic animals indicate that the formation of hexose-6-phosphate from glucose is inhibited in exptl. diabetes. No change in the formation of phosphate esters could be observed when fructose was used as the phosphorylation substrate, thus serving as further evidence of the fact that the metabolism of fructose is disturbed to only a negligible degree, and in some instances remains entirely undisturbed. The reduced rate of adenosinetriphosphate (ATP) disappearance and the simultaneous appearance of inorg. phosphate in liver exts. in exptl. diabetes cannot be used as the basis for the assumption that a reduction in the degree of glucose phosphorylation in the liver is conditioned only by the lowering in the activity of the glucokinase. This could be the case only if the accumulation of the inorg. phosphate were the result of ATPase activity. The fact that towards the end of some of the expts. there remained a considerable quantity of unused ATP serves as evidence of the fact that even in exptl. diabetes there occurred an increase in the activity of ATPase, it nevertheless failed to interfere with the full activity of the glucokinase. Had that been the case, it might have been possible to counteract the process of glucose phosphorylation in the liver in diabetes by lowering the activity of the glucokinase. However, inorg. phosphate accumulation could take place as a consequence of the increase in the activity of glucose-6-phosphatase, which would cause a reduction in the quantity of phosphorylation of glucose. The lowering of the process of glucose phosphorylation in the liver in diabetes can be conditioned by a change in the activity not only of glucokinase, but of glucose-6-phosphatase as well. B. S. Levine

PETROVA, A. N.

The enzymic conversion of potato starch at different stages of the tuber development. A. N. Petrova and T. T. Bolotina (Lab. Physiol. Chem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 21, 451–6(1956).—During the blooming period and at harvest time potato tubers were extd. by the method of B. and P. (*C.A.* 47, 11359*g*). Phosphorylation and hydrolytic activities in the exts. were detd. after 16–18 hrs. of dialysis. Reducing P-contg. esters and reducing substances not contg. P and free from sugars were detd. quantitatively in the non-dialyzed exts. The detns. of the synthesizing activity and of the phosphoglucomutase activity (conversion of glucose-1-phosphate to glucose 6-phosphate) were made by methods previously described (*C.A.* 48, 8983*d*). The phosphorylase fraction was pptd. with $(NH_4)_2SO_4$, using 28 g./100 ml. of the ext. at 30°; ppt. was dissolved in 0.1*N* citrate buffer, pH 6.5, and dialyzed for 24 hrs. against H_2O. Quant. accumulation of the starch was detd. by the enzyme conversion method. The phosphorolytic and hydrolytic activities of the tuber exts. progressively tapered down as the tuber ripened. The lowered intensity of the phosphoglucomutase activators is one of the important factors participating in the increase of the synthetic activity and in the reduction of the phosphoglucomutase activity of the aq. tuber exts. The main part of the reducing substances in the potato tuber consisted of P-free compds. As the tubers ripened and the accumulation of starch progressed the quantity of P-free reducing substances went down; at the same time the quantity of P-contg. reducing compds. was only slightly changed, if at all.

D. S. Levine



Petrova, A. N.

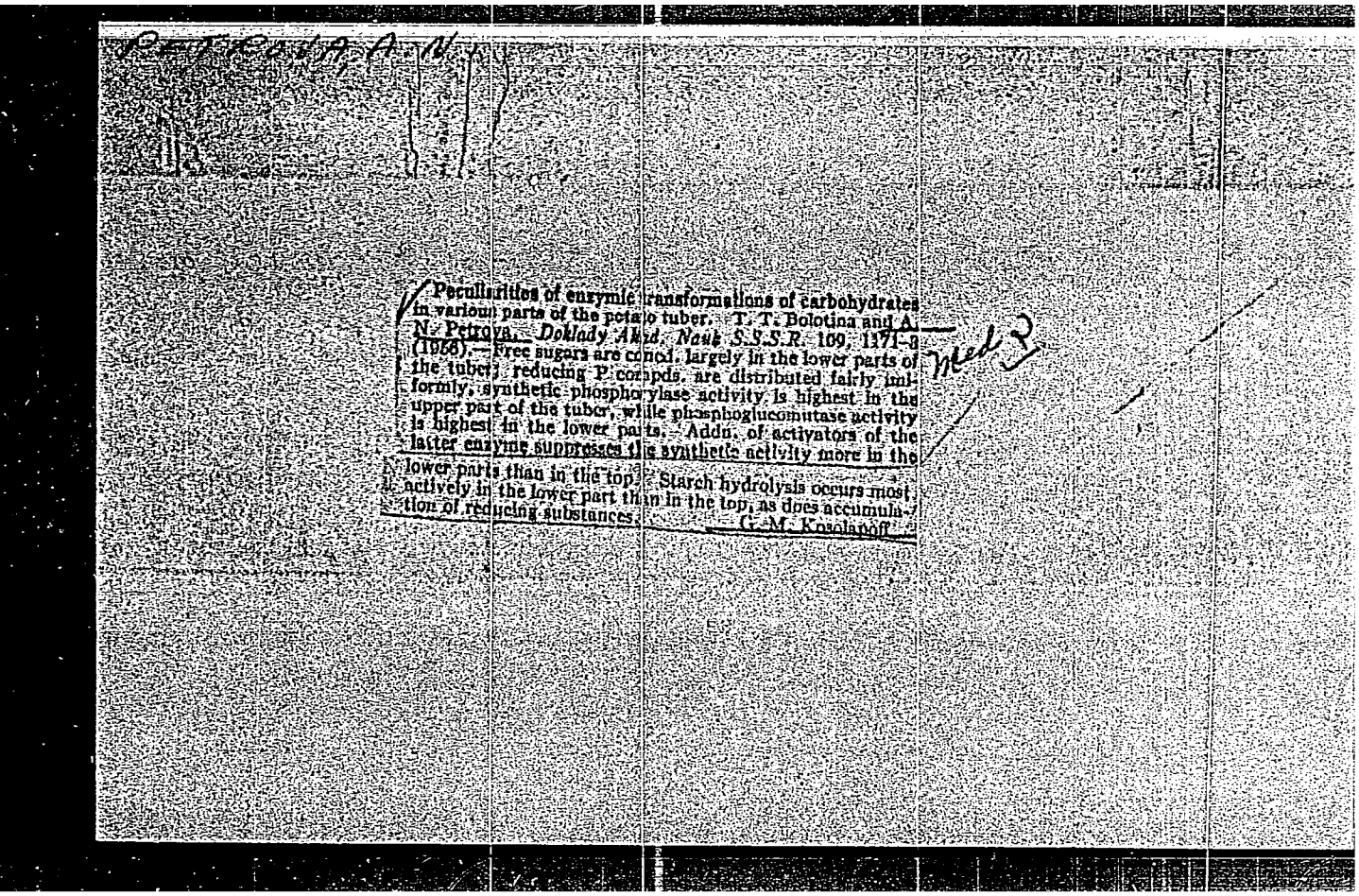
The enzymic conversion of potato starch at different stages of the tuber development. A. N. Petrova and T. T. Bolotina. *Biochemistry* (U.S.S.R.) 21, 457–62(1956)(English translation).—See *C.A.* 51, 3754b.

D. M.

PETROVA, A.N.

Peculiar features in the conversion of sugars in potato tubers.
Dokl. AN SSSR 109 no.5:1005-1008 Ag. 1956. (MLRA 9:10)

1. Laboratoriya fiziologicheskoy khimii Akademii nauk SSSR. Predstavleno akademikom A.L.Kursanovym.
(POTATOES) (SUGARS)



Peculiarities of enzymic transformations of carbohydrates in various parts of the potato tuber. T. T. Bolotina and A. N. Petrova. *Doklady Akad. Nauk S.S.S.R.* 109, 1171–3 (1956).—Free sugars are concd. largely in the lower parts of the tuber; reducing P compds. are distributed fairly uniformly; synthetic phosphorylase activity is highest in the upper part of the tuber, while phosphoglucomutase activity is highest in the lower parts. Addn. of activators of the latter enzyme suppresses the synthetic activity more in the lower parts than in the top. Starch hydrolysis occurs most actively in the lower part than in the top, as does accumulation of reducing substances. G. M. Kosolapoff

PETROVA, A.N.

New data on biosynthesis of glycogen in the liver. A. N. Petrova. *Doklady Akad. Nauk S.S.S.R.* 111, 1054–7 (1956).—Incubation of liver slices with glucose in the presence of dinitrophenol results in synthesis of glycogen, which indicates an independence of this synthesis of hexokinase activity and action of adenosine triphosphate. Liver exts. devoid of phosphorylase activity and contg. very little glycogen and only traces of phosphoglucomutase activity also synthesized glycogen in incubation with glucose. Heating the exts. to 100° destroyed this ability. The max. synthesis occurs in about 1 hr. after the start. No alteration of the content of reducing phosphate esters was observed. Thus glycogen biosynthesis in liver proceeds not only by hexokinase, phosphoglucomutase, and phosphorylase routes but also through a new and different path.
G. M. Kosolapoff

BEKINA, R.M.; PETROVA, A.N.

Methods of determining glucokinase activity in the liver [with summary in English]. Biokhimiia 22 no.4:636-643 Jl-Ag '57. (MIRA 10:11)

1. Laboratoriya fiziologicheskoy khimii AN SSSR, Moskva.

(LIVER EXTRACTS,
glucokinase, determ. by ATP reaction (Rus))
(TRANSPHOSPHORYLASES, determination,
glucokinase in liver extracts, determ. by ATP reaction (Rus))
(ADENYLPYROPHOSPHATE,
determ. of glucokinase in liver extract (Rus))

PETROVA, A.N., BEKINA, R.M. (Moscow)

Disorders of carbohydrate-phosphorus metabolism in diabetes mellitus. Probl.endok. i gorm. 4 no.1:114-124 Ja-F'58 (MIRA 11:5)

1. Iz laboratorii fiziologicheskoy khimii AN SSSR.
(CARBOHYDRATES, metabolism,
in diabetes mellitus, review (Rus))
(PHOSPHORUS, metabolis,
same)
(DIABETES MELLITUS, metabolism,
carbohydrates & phosphorus, review (Rus))

A. N. PETROVA

"[illegible]"

The Chemistry and Metabolism of Carbohydrates in Animal and Plant Organisms. Conference in Moscow. January 18 to January 30 1958.

EXCERPTA MEDICA Sec 2 Vol 12/1 Physiology Jan 59

38. ISOLATION OF A NEW ENZYME OF THE TRANSGLYCOSYLASE TYPE FROM LIVER (Russian text) - Petrova A. N. Lab. of Physiol. Chem., Acad. of Sci. of the USSR, Moscow - BIOKHIMIYA 1958, 23/5 (730-736) Tables 6

The enzyme is able to catalyse the formation of glycogen-like substances. The enzymic reaction proceeds in the presence of α-dextrins and of free glucose and consists in an increase of the polysaccharide content and a decrease of free glucose in the incubation medium. With the rise of the number of glucose residues in one fraction of the trichloracetic incubation medium (precipitate) their content in the other fraction (extract) decreases. The data suggest that the enzymic process in question is a transglycosylase reaction in which dextrins act as donor-substrate, and free glucose as acceptor cosubstrate.

ISAYEVA, A.L.; VOLGAREVA, N.P.; PETROVA, A.N.; TURITOVA, L.V. (Moskva)

Protracted septic endarteritis and endocarditis following surgical treatment of tetralogy of Fallot. Klin.med. 36 no.1:121-127 Ja '58. (MIRA 11:3)

1. Iz kliniki detskikh bolezney (dir.-deystvitel'nyy chlen AMN SSSR prof. Yu.F.Dombrovskaya) i kafedry patologicheskoy anatomii (zav.-chlen-korrespondent AMN SSSR prof. A.I.Strukov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(TETRALOGY OF FALLOT, surg.
postop. septic endarteritis & endocarditis (Rus)
(ENDARTERITIS, in inf. & child
septic, postop. in tetralogy of Fallot surg. (Rus)
(ENDOCARDITIS, BACTERIAL, in inf. & child
postop. in tetralogy of Fallot surg. (Rus)

PETROVA, A.N.

Isolating transglycosidase from the liver and determining its activity. Biokhimiia 24 no.2:228-233 Mr-Ap '59. (MIRA 12:7)

1. Laboratory of Physiological Chemistry, Academy of Sciences of the U.S.S.R., Moscow.

(LIVER, metab.
transglucosylase, determ. (Rus))
(TRANSFERASES,
transglucosylase in liver, determ. (Rus))

PETROVA, A. [illegible]

[illegible] kilns for [illegible] and porcelain [illegible] Pamiatka po [illegible] keramicheskikh [illegible] faiansovykh [illegible] Stroiizdat, 1965. [illegible]
(MIRA 18:10)

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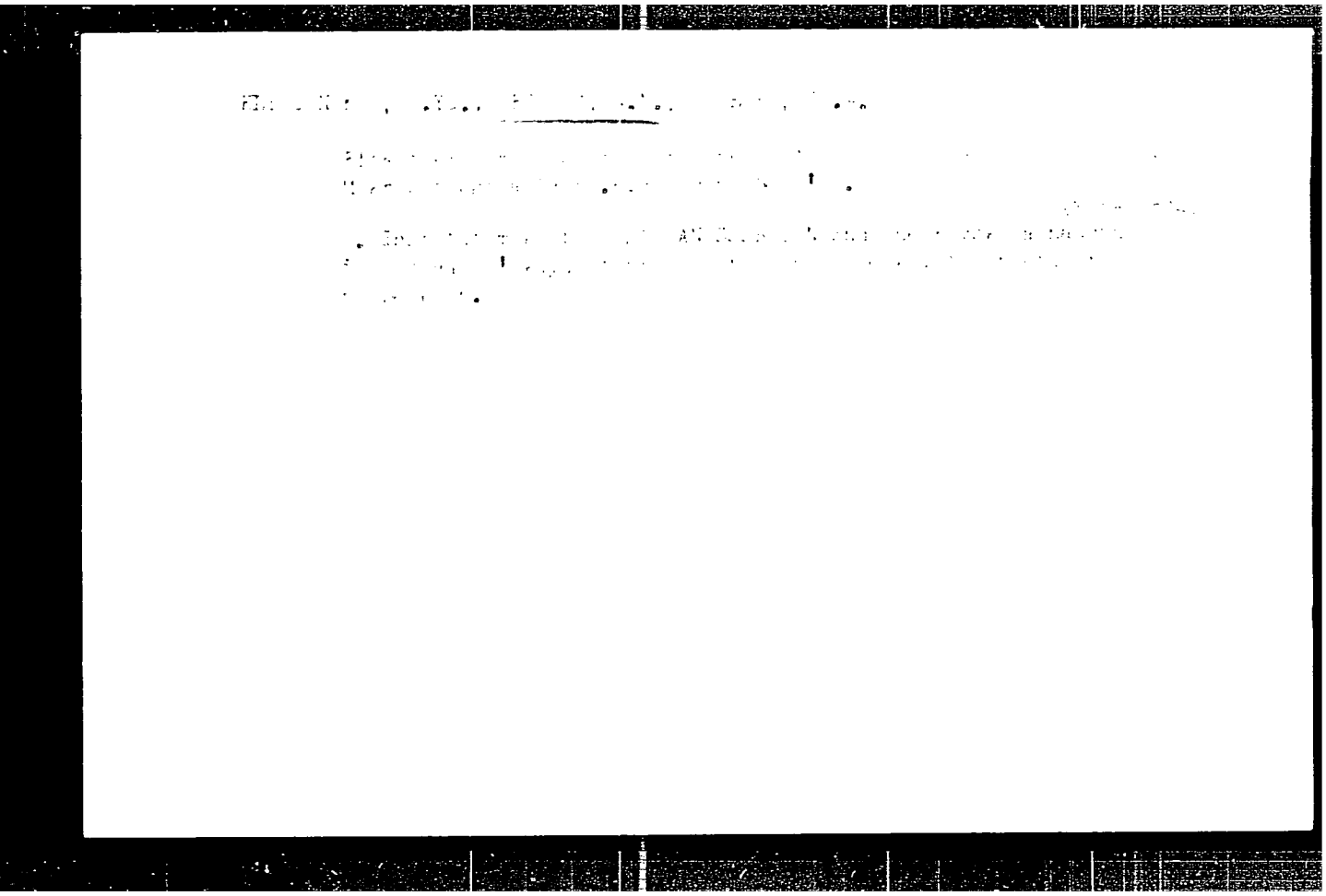

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PETROVA, Antonina Nikolayevna

[Safety manual for ... er and drawer
Pamiatka po tekhn... sadchika i vy-
stavshchika kir... ar, 19[illegible]. 22 p.
(MIRA 18:[illegible])

ACCESSION NR: AR4015704 S/0081/63/000/023/0602/0602

SOURCE: RZh. Khimiya, Abs 23T324

AUTHOR: Avgustov, Yu. A.; Petrova, A. N.

TITLE: Coating of metals with plastics

CITED SOURCE: Tr. Vses. n.-i. i konstrukt. in-t khim. mashinostr., vy*p. 42, 1962, 88-93

TOPIC TAGS: metal coating, corrosion prevention, plastic, plastic coating, vinyl plastic, polyvinylchloride, polymer, polyethylene

TRANSLATION: To obtain a coating on a thin metal sheet of steel or cast iron, a film of vinyl plastic, a paste of polyvinylchloride and powdered polyethylene are used Before applying the coating, the metal sheet is sandblasted and cleaned with compressed air An improvement in the technique of application of vinyl plastic films having a thickness of 0.4-0.5 and 0.7-0.9 mm has been developed which shortens the length of the process by a factor of 10. A film of adhesive (13-16% solution of vinyl perchloride indichloroethane) is applied twice to the cleaned vinyl plastic surface, dried 3-5 minutes in the air and heated for 2-3 second at 175-180C. Simultaneously, the metal sheet is subjected to an analogous procedure,

Card 1/2

ACCESSION NR: AR4015704

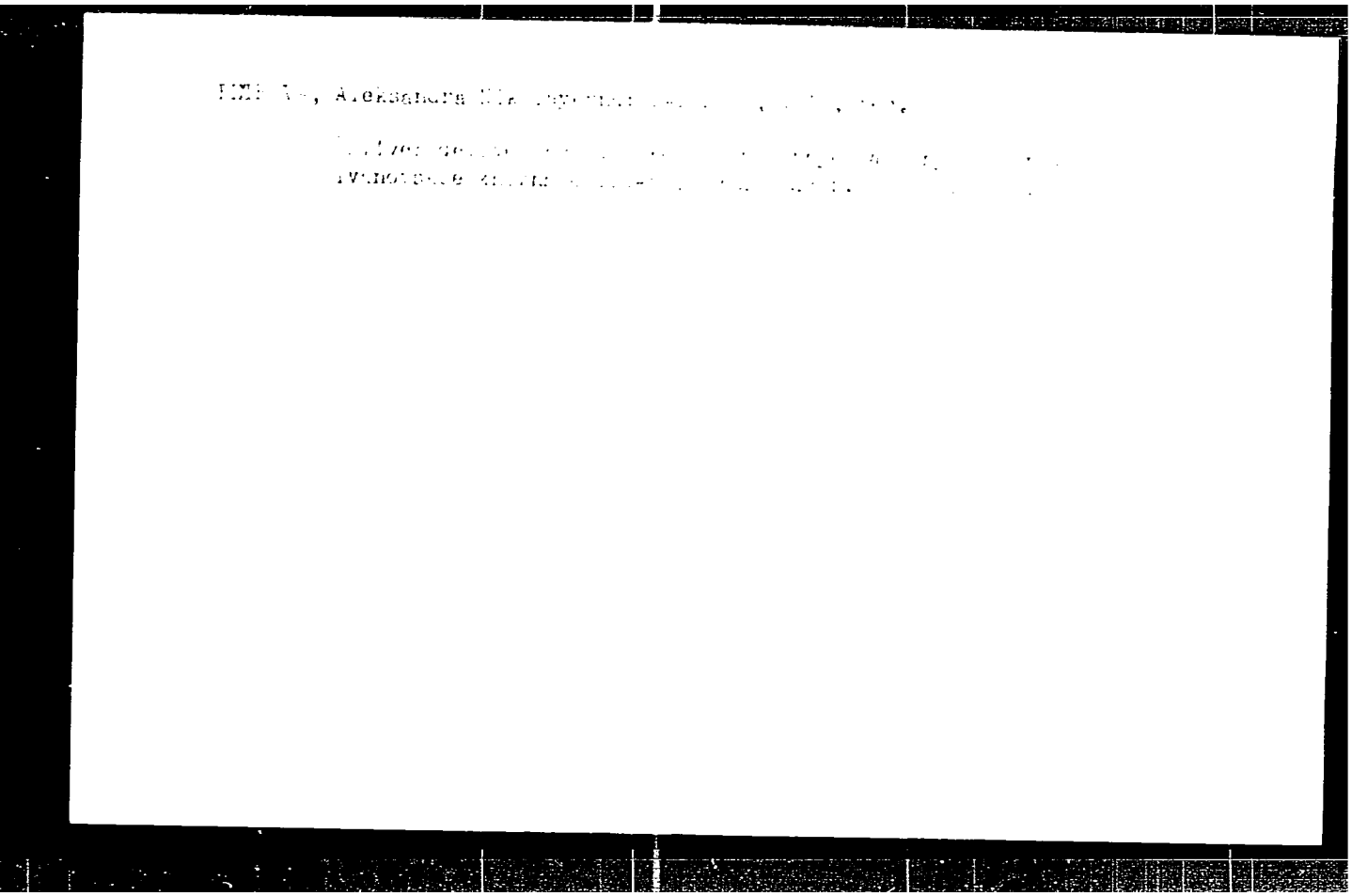
but the length of heating is prolonged to 1.5-2 min., and the application of the adhesive is repeated 3 times. The heated vin[illegible] plastic is then applied to the metal sheet situated on a hotplate at 60-70C, and rolled with a steel roller under a pressure of 1 kg/cm^2 for 10-15 sec. The adhesive force, tested [illegible] rupture strength machine (samples were in the form of "[illegible]"), was 47 k[illegible]. During application of polyvinyl chloride paste stabilization and [illegible] of the adhesive layer [illegible] is required, as well as [illegible] to improve the adhesion. The best adhesives are ED-10, P[illegible] [illegible] film and after [illegible]5 min. in the air [illegible]ing in an oven for 3-4 min. at 1[illegible] 190C, application of polyvinylchloride paste to the metal surface at ~50C with the aid of [illegible] [illegible] vinyle [illegible] as follows: preparation of the metal surface, two applications of the adhesive [illegible] of polyvinylchloride paste to the metal sheet [illegible] [illegible] poly-[illegible]ener, followed by heating for 5-10 min. at 190-200C and cooling in air to 20C. Coating of a cleaned metal sheet, heated to 300-350C, with polyethylene is accomplished by immersion into a whirling polyethylene powder under low pressure for 25-30 sec. followed by fusion of the applied polyethylene at 200C for 5 min. and cooling at 20C. It was established that the chemically most stable coating is one of vinyl plastic, but that the most technological coating, having the best physico-mechanical properties, is one based on polyvinylchoride paste. L. Kotlyarevskaya.

DATE ACQ: 09Jan64

SUB CODE: MM, MT

ENCL: 00

Card 2/2



PISARENKO, N.F.; PETROVA, A.N.

Transferases catalyzing the glycosol group transfer. Usp.biol. khim. 5:182-215 '63. (MIRA 17:3)

MISHUSTIN, Ye.N.; PETROVA, A.N.

Determination of the biological activity of soils. Mikrobiologiia 32 no.3:479-483 My-Je '63 (MIRA 17:3)

1. Institut mikrobiologii AN SSSR.

[illegible] Antonina Nikolayevna, TARNINA, M.A. red. [illegible]
T.N., tekhn. red.

[Safety manual for [illegible] pottery ware] Pamiatka p[illegible] tekhnike bezopasnosti [illegible] glazurovshchika keramicheskikh i fayfo-faianso[illegible] izdelii. Moskva, [illegible] M.A. [illegible]

[illegible]

PETROVA, A.N.

Participation of adenosinetriphosphoric acid in transport reactions of glycosyl groups. Dokl.AN SSSR 148 no.4:949-951 F '63. (MIRA 16:4)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavleno akademikom A.I.Oparinym.
(Adenosinetriphosphoric acid) (Dextrin) (Chemical reactions)

PETROVA, A. N. (Moskva); BOLOTINA, T. T. (Moskva)

Enzymatic transformations of starch and the products of its decomposition in potatos tubers. Usp. biol. khim. 4:233-247 '62. (MIRA 15:7)

(STARCH) (POTATOES) (ENZYMES)

PETROVA, A.N.

New enzyme preparation. Vest. AN SSSR 32 no.3:35-36 Mr '62.
(MIRA 15:2)

(Amylose isomerase)

PETROVA, A.N.; BOLOTINA, T.T.; KOIZEVA, A.A.

Study of the active forms of amylose isomerase. Biokhimiia 26 no.6:1001-1007 N-D '61. (MIRA 15:4)

1. Institute of Biochemistry, Academy of Sciences of the U.S.S.R.

(AMYLOSES)